

ment

3)

Are
South

20 firms
rning out
ngerie to
emselves
eorgia as
has been
e of the
of Com-
ng more

of what
he com-
eartedly
on firms
ide with
ablish a
already
cy here.

that the
ustrial
on. The
indus-
lew the
a 33½
ses.

erice is
at on a
re. He
eorgia
but at
ed for
nd tip
ho has

ion.

ers

ite
ist.
to

ille,

la.

O R

July, 1944

XUM

MANUFACTURERS RECORD

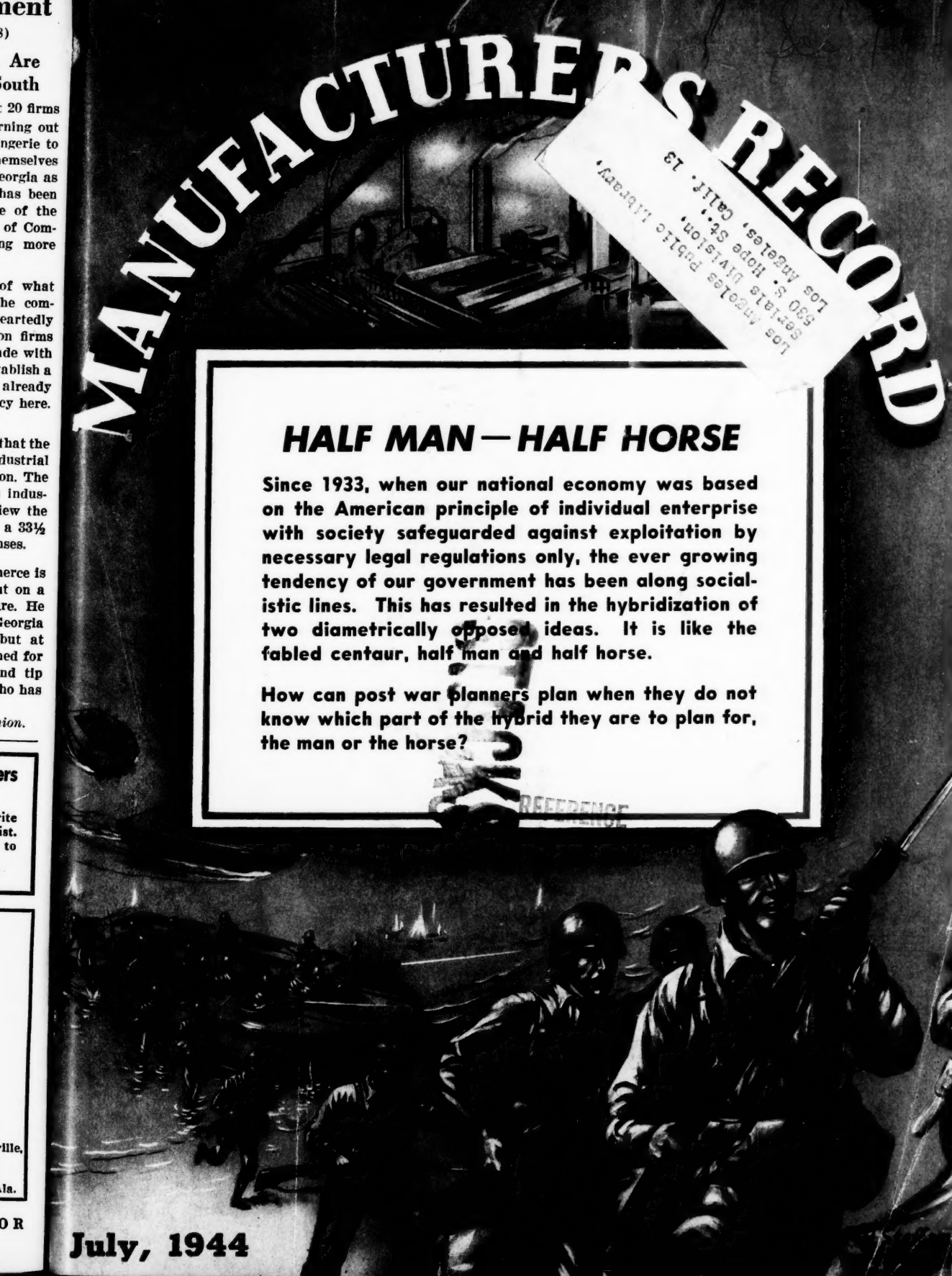
Los Angeles Public Library
Central Division
530 S. Hope St.
Los Angeles, Calif. 13

HALF MAN — HALF HORSE

Since 1933, when our national economy was based on the American principle of individual enterprise with society safeguarded against exploitation by necessary legal regulations only, the ever growing tendency of our government has been along socialistic lines. This has resulted in the hybridization of two diametrically opposed ideas. It is like the fabled centaur, half man and half horse.

How can post war planners plan when they do not know which part of the hybrid they are to plan for, the man or the horse?

REFERENCE





Planning for tomorrow's packaging problems
born materials and ideas have cast their shadow
Let Apaco Engineer your containers into the light

ATLANTA PAPER CONTAINER
Atlanta
Established 1868

JUL

MANUFACTURERS RECORD

ESTABLISHED 1882

A Publication for Executives

Volume 113 JULY, 1944 Number 7

EDITORIALS

Building for the Future	21
Regulation Beroming Domination	22
"Gone with the Wind"	22
France Played This Game	23
American History of Debt	23

FEATURE ARTICLES

Southern Research Institute—by Thomas W. Martin	24
Sulphur's Increasing Uses	26
Planned Materials Handling a Vital Part of Planned Output —by Ezra W. Clark	27
The South Has No Race Problem—by Thurman Sensing	28
Viscose Addition Slated for Finish Late this Year	29
World's Largest Integrated High Octane-Rubber Operation	30
Ninety Years of Service	32
Denison Dam Opens New Southwestern Industrial Potentialities	34
June Contracts Total \$70,901,000 —by Samuel A. Lauver, News Editor	37
Profit and Loss—by Don Knowlton	38
The Securities Exchange Commission Steps Out of Bounds	40
The Sea Mule	41
C. & P. Worker Gets Award for Courage	42
Texan Heads Standard Oil Company (N. J.)	42
Veteran Forester Retires	42

DEPARTMENTS

Little Grains of Sand	6
Southern Industrial Expansion in June	43
Industrial News	44
Index for Buyers	74
Index for Advertisers	76

MANUFACTURERS RECORD PUBLISHING CO.

Publishers of MANUFACTURERS RECORD, CONSTRUCTION (daily), CONSTRUCTION (monthly) and BLUE BOOK OF SOUTHERN PROGRESS.

FRANK GOULD - - - - - President
WM. M. BEURY - - - - - Vice President and Editor
MAJOR R. Lisle GOULD - - (U.S.A.A.F.) Sec. and Treas.
C. J. O'DONNELL - - - - - Asst. Sec. and Asst. Treas.
H. B. FRENCH - - - - - Advertising Manager

Main Office: Candler Building, Baltimore 3, Md.
Phone: LEExington 7065

BRANCH OFFICES:

New York (1)—393 Seventh Ave., Room 1615. Phone: Penna. 6-3515.
Chicago (4)—28 East Jackson Blvd., Room 712. Phone: Harrison 5867.
Charlotte, N. C.—2250 Colony Road. Phone 6383.

Subscription Rates: One Year \$3.00. Two Years \$5.00.
Single Copies 25c, back numbers over 3 months old 50c.

Entered as second class matter at the postoffice, Baltimore, Md., U.S.A., under act of March 3, 1879. Volume 113, Number 7, Monthly.



This SUGGESTION SYSTEM GETS RESULTS

The \$10,000.00 net saving effected annually by two ideas does not show up in these photos. The scene itself is a familiar one wherever the Morton Suggestion System is in operation, as Michael Lombardi and Patrick Walsh receive suggestion awards from officials of The Sponge Rubber Products Co., Derby, Conn.

The Morton Suggestion System installation at The Sponge Rubber Products Co. is one of the more than 10,000 which have been made in the past 15 years. This professional method of handling employee creative thinking works in any business, anytime.

Get all the facts about the Morton Suggestion System's proved operating methods, prestige-building cabinets and promotional material and expert consulting and advisory service. Learn how truly inexpensive this result-getting suggestion system can be as it makes available all the profit-producing, money-saving ideas your employees can think up. Write for details today.

MORTON MANUFACTURING CO.
SUGGESTION SYSTEM DIVISION
356 N. Leamington Ave., Chicago 44, Ill.



North Carolina*

TODAY AND TOMORROW



TOBACCO



TEXTILES



FURNITURE



TIMBER



MAN-POWER



COTTON



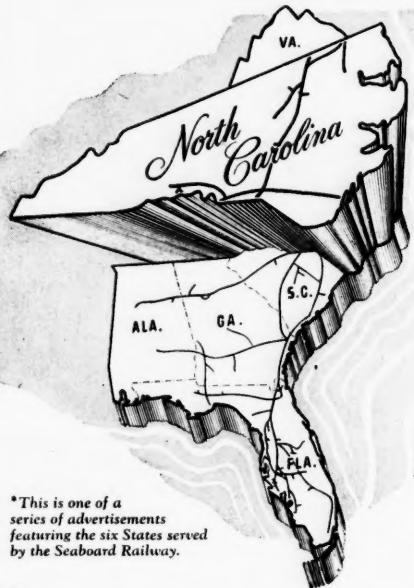
CHEMICALS



FARM CROPS



MINERALS



*This is one of a series of advertisements featuring the six States served by the Seaboard Railway.

North Carolina has an outstanding record among the states of our Nation for industrial development, commercial progress and civic advancement.

Nature blessed this state with such basic assets as mild climate, fertile soils and raw materials in abundance and variety. Today, these resources are contributing mightily to the winning of the war.

But North Carolina is not resting on its laurels. State agencies, railroads, industry and agriculture are cooperating in long-range plans to assure better times in the years ahead.

The Seaboard, a key railroad serving North Carolina, is proud of the constructive part it has played in the economic progress of the State. Through its Industrial and Agricultural Development Departments, as well as through other agencies of the Railway, the Seaboard will continue to plan and work with North Carolina for the brighter days ahead.

Seaboard Railway, Norfolk 10, Virginia.



Buy more WAR BONDS!

Little Grains of Sand

*"Little drops of water, little grains of sand,
Make the mighty ocean, and the pleasant land."*

At the same time that American business produces and distributes the goods and services that the American people want and demand it also provides them with the wherewithal to buy these goods and services.

A great many people only see that their purchases keep the wheels of business turning and entirely lose sight of the fact that without their pay envelopes, filled by this same business, they would not have even the bare necessities of life, let alone the luxuries which they now take for granted.

There is a federal law that requires tax-exempt organizations to file informational income tax returns showing receipts and disbursements.

Running true to the New Deal form that attempts to circumvent laws that are disagreeable to labor friends with vote promising potentials, the Treasury Department has ruled that local labor unions will not be required to file individual returns, but may lump them in compilations to be filed by the parent labor organization.

This is a typical example of a government ruling for a purely political purpose. It is a deliberate attempt to evade the meaning of the law of the land by an administrative department in order to curry favor with labor leaders by making it impossible for the public to see the rotten branches on separate labor trees because its attention is directed to the forest.

The question has been asked: "Why is the Southern Railroad running big advertisements in the newspapers when its seating space is sold well ahead and the problem is not how to get more passengers, but to handle those who seek accommodations? The railroads are even advising people to stay at home and not ride the trains."

The answer is a simple one: The railroads seek the good will of the public. They want the average citizen — the man in the street — to understand their problems and to know that they are striving to give all the service to the war effort and to the public that conditions warrant.

The railroads, the Southern is only one among many, realize that advertising is a present investment that will pay future dividends when the war is over and conditions readjust themselves to normal.

It is interesting to note that the communities which, as the result of war contracts, have experienced the greatest changes in the accustomed tenor of their economic life, are not to be found in densely populated, industrialized centers but in such remote districts as Mayes county, Oklahoma.

For each dollar of manufactures it produced in

MANUFACTURERS RECORD FOR

1939, Mayes county has received \$2,275 in war contracts for supplies and industrial facilities.

When he testified recently before a congressional committee Dr. Edwin W. Kemmerer, one of the world's leading monetary authorities said:

"The first requirement of any postwar monetary standard that can be wisely adopted internationally and maintained for any considerable time is that it shall have the confidence of the people. It should be free from international jealousies. Like Caesar's wife, the standard should be above suspicion. To this end it should be simple and be a development out of a long, common experience. * * * No other kind of currency system in a distracted postwar world will so quickly restore the confidence of the public as a true gold standard."

We are indebted to Dr. Harley L. Lutz, Professor of Public Finance, Princeton University, for the following:

"Instead of all the talking and planning that is now heard about how to save or to restore and stimulate the enterprise system after the war, a short and simple formula is offered here as being all that is necessary. This formula, addressed to every citizen, is as follows:

"IF YOU WANT TO MAKE A DOLLAR BY ANY HONEST MEANS YOU ARE FREE TO TRY, AND IF YOU SUCCEED YOU MAY KEEP IT."

Rep. John Rankin of Mississippi read this poem on the floor of the House recently:

A SOLDIER TO STRIKERS

We spilled our blood in the jungle mud,
And we didn't have much to say;
And we shared our bread at the side of the dead—
But where were you that day?

We steamed in sweat and our clothes were wet,
But we fought every inch of the way;
And we wished to hell as our buddies fell
That you had worked that day!

Sweat and mud and tears and blood
Are part of a soldier's pay.
We aren't done yet—but don't forget
We're coming back some day!

When they think about the Great White Father in Washington, it might be well for the American Negro to remember what happened to the American Indian after promises were made by previous Great White Fathers in Washington. A study of history should show the Negro, just as it has shown the White and the Indian, the value of Government promises. It should show him that his best friend is the man in his neighborhood or community who makes sure that he has a job in which he can earn a living, maintain his self-respect and take care of the job of raising other self-respecting citizens.

JULY NINETEEN FORTY-FOUR

It'll pay us to use
APS PLASTEEL
Roofing!



After all, APS PLASTEEL Roofing is really an investment! It pays dividends in the fact that it'll withstand any climatic condition, it'll resist acid fumes and salt air, and needs no painting or maintenance after it's on the job!



APS PLASTEEL is available for all essential industrial and farm needs, in standard sizes and corrugations to fit your requirements. Write for folder!

PROTECTED STEEL PRODUCTS

General Office and Plant,
WASHINGTON, PA.



COME TO THE PLANT THAT SPECIALIZES ON THEM... *and nothing else*

The Harper organization devotes its energies and facilities exclusively to non-ferrous and stainless fastenings. It manufactures bolts, nuts, screws, washers, rivets and specials of Brass, Bronze, Copper, Everdur, Monel Metal and Stainless Steel. It produces nothing in common steel or iron.

Harper offers large and widely assorted stocks . . . extensive manufacturing facilities . . . engineering "know-how" . . . and field service difficult to match elsewhere. All of which means much to the fastening user.

New four color, one hundred four page catalog and reference book ready soon.

THE H. M. HARPER COMPANY
2645 Fletcher Street • Chicago 18, Illinois
BRANCH OFFICES: New York City • Philadelphia
Los Angeles • Milwaukee • Cincinnati • Houston
Representatives in Principal Cities



BRASS • BRONZE • COPPER • EVERDUR
MONEL • STAINLESS

The following whether true or not makes a good story:

Three salesmen were eating dinner in a Washington hotel. The bill was \$30 and all reached for the checks. The first fellow said his firm was in the 50 per cent bracket, doing war work, and that the bill would actually cost him only \$15. The second man said, "Let me pay it. We're in the 80 per cent bracket and it will cost me only \$6." The third one said, "I'll pay the check. My firm is working on a cost plus basis and we'll make \$3 on the meal."

Railroad men, the farsighted men who plan the future of transportation, are not daunted by the prospect of competition from busses, private cars and airplanes that will face them with the return to peace. They are planning to meet such passenger competition for passenger traffic by improving the quality of their service to the passenger. Such improvements include new cars with more perfect ventilation and heating, fluorescent lighting, telephone service on moving trains, individual radios, annunciator systems, reclining coach seats and even coach seats that will be convertible into comfortable beds.

These planners for the future of our railroads will strive to make passengers feel that they are guests. They will seek to emulate the attractive features of all good hotels so that when the highways of the nation are thronged with cars, trucks and busses their clients will be able to travel restfully and in comfort.

As is proved by the sign posted at his place of business this Baltimorean believes that cleanliness, mental, moral and physical, is next to Godliness.

FALLSWAY DORMITORY

#48 Market Place

Clean Beds

Hot Baths

50¢

Special Weekly Rates

WARNING

No drunkards
drug users
thieves
louse breeders
perverts
beggars
peddlers
bar tenders

No tramps
idlers
wife deserters
draft dodgers
loungers
gamblers
liquors
drugs

other human skum or person under slightest influence of liquors or drugs allowed on these premises.

Keep Out

H. A. L. de Aryan, owner & mgr.

South Carolina's favorable position in the matter of cotton, as reviewed by the *Columbia State*, brings out some interesting facts.

"Whatever the fate of the fleecy stuff in the years that are to come," it observes, "the section that pro-

MANUFACTURERS RECORD FOR

duces a quality product has a brighter outlook than one that does not. And since this state now leads all the South in staple of an inch or more, it is only reasonable to assume that we are more prepared to meet the competition than are our neighbors.

"In 1936, when the five-acre better yield and staple value contest was begun, 85 per cent of the cotton raised in this state was less than 15-16 of an inch. The average acre yield of lint was 152 pounds for the previous five years and most of the crop was of necessity exported because the staple length was not usable, nor desired, by local mills.

"But today, the story is quite different.

"Now 97.1 per cent of our crop is 15-16 or longer, and 90.5 is one inch or better—to make us the leader of the South. Even Mississippi with its great cotton soil has only 87 per cent inch or longer staple, and our nearby states have considerably lower portions, exact figures being: North Carolina, 74.4; Georgia, 49.7, and Alabama, 35.6.

"South Carolina's realistic understanding in 1926 that something had to be done to improve our cotton has turned out to have been not only a good economic move but, in fact, a fine bit of preparedness for the national emergency that now exists. . .

"The improvement has been a matter of well-rounded cooperation. The results reflect the use of improved cultural practices, boll weevil control, better ginning and handling methods, seed breeding and personal services by the agricultural agencies."

While agriculture stands as a stubborn fortress as a defender of the capitalistic system, it has shrunk in relative importance until it now includes less than twenty-five per cent of our population. In other than agricultural pursuits the development of large corporate enterprises has reduced the number of business proprietors to less than five per cent of the non-agricultural labor force. The other ninety-five per cent call themselves employees. The industrial proprietary capitalist has become a numerically insignificant political minority.

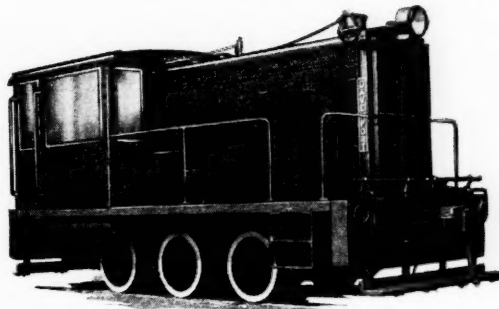
The successor in economic power to the non-agricultural capitalist is the corporation, and corporations, as such, have no political power. The corporate stockholder has proved that he is no substitute in political influence for the small proprietor he has displaced. Corporate management is controlled increasingly by salaried careerists to whom the legal corporate entity is merely an employer.

Neither the nominal owners (stockholders) nor their hired managers possess the keen sense of property and the will to fight for it that characterize the small, independent business man. The individual proprietor will defend his property interests like a tiger at bay, but the large corporation always attempts appeasement under the guidance of expensive legal advice.

Big business, so-called, is utterly vulnerable politically. As a potent force in politics it is a eunuch and is treated as such by both government and labor.

JULY NINETEEN FORTY-FOUR

TON-MILE COSTS will be closely ANALYZED



in the POST-WAR ECONOMY

We are winning this war at ANY cost—but—the intensive activity, when peace comes, will—and MUST—be carried out WITHOUT unnecessary waste.

That's why Davenport Better-Built Locomotives will be the logical choice for industrial rail haulage.

These superb performers, modern in every respect, stamina-built and lasting, will deliver the low cost haulage required to meet the demands of keenly competitive operation.

Behind these easy-to-handle and completely responsive haulage units are more than forty years of fine locomotive building culminating in a proud record of performance on the exacting duties of war on every front.

As you plan for the future, make Davenport Locomotives a "MUST" for greater job efficiency.

FREE HAULAGE ANALYSIS

We invite you to submit descriptions of your haulage conditions and will place reliable recommendations in your hands without the slightest obligation.



Better-Built

DAVENPORTS
are AVAILABLE in

**STEAM
GASOLINE
DIESEL**
with
**ELECTRIC
or
MECHANICAL
DRIVE**

Complete Information on Request

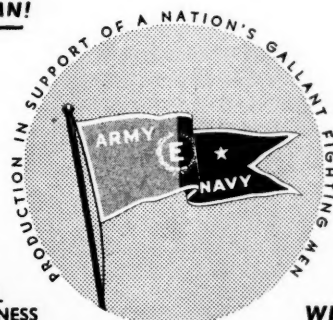
EXPORT
OFFICE

BROWN & SITES

50 Church St., N. Y.
Cable Add. "Brosites"

YOU CAN!

ADD
YOUR
WEIGHT
TO
NATIONAL
EFFECTIVENESS



MAKE
EVERY
DAY
COUNT
TOWARD
VICTORY

WILL YOU?

DAVENPORT LOCOMOTIVE WORKS

A DIVISION OF DAVENPORT BESLER CORPORATION, DAVENPORT, IOWA



Cylinder Forgings

for swarms of planes



They glow softly red, bobbing gently as the hook conveyor carries them along overhead from the furnace. They look like old-fashioned Chinese lanterns at a garden party. But they are making the war anything but a garden party for Messrs. Hitler and Tojo. These lantern-like shapes traveling through Bethlehem shops are alloy-steel airplane-cylinder forgings.

In the cylinders is generated the power that carries fighters and bombers through the skies of Europe and the Pacific. The cylinders must endure tremendous pressure and intense heat, and stand up under hour-after-hour operation at terrific speeds. That calls for fine steel; steel that is very strong and homogeneous, and with a "heat

history" that certifies its suitability for the job.

But to establish its soundness and fitness beyond any doubt, airplane-cylinder steel is repeatedly tested and inspected, during the steel-making and forging processes, throughout the complex series of heat treatments and in the final machining.

When plans were made for a gigantic U. S. Air Force, Bethlehem was assigned to produce a major part of the cylinder forgings. Manufacturing and handling procedures were worked out to produce these highly-specialized forgings on a mass-production basis. New machinery was installed and an entire additional plant constructed.

Our output of cylinder forgings

climbed steadily, as the airplane-building program gained momentum. Now cylinder production is more than ten times as large as it was at the beginning of the war emergency. There are more Bethlehem cylinders flying against the enemy than cylinders made by all other manufacturers put together.

WORLD'S LARGEST SHIPBUILDER



SECOND LARGEST STEEL PRODUCER

MANUFACTURERS RECORD FOR

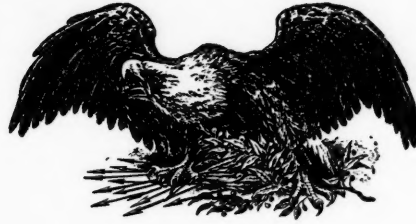
For
Reco
faith
Its f
built
mens
the in
of th

The
as an
manu
has w
pride
progr
selfish
part i

Six
who b
South
men f
Men s
come

Tod
men o
dustry
for th
the st
ness in
tion,
length
tific re

JUL



"What Enriches the South Enriches the Nation"

Building for the Future

For more than sixty-two years the MANUFACTURERS RECORD in good times and in bad, has expressed its faith in the South as the land of limitless opportunity. Its faith has never faltered because its faith was built, not only on its knowledge of the South's immense natural resources but also on its confidence in the intelligence, integrity and ability of the citizenry of the South.

The MANUFACTURERS RECORD first knew the South as an agricultural region. It has seen the birth of manufacturing and mining within its borders and has watched their development with interest and with pride. Its pride is justified by the South's record of progressive growth and is augmented by a feeling of selfish satisfaction at having played even a minor part in furthering that growth.

Six decades ago there were a few far-sighted men who believed in the integrated business future of the South. Richard H. Edmonds was one of them. These men followed the star of their belief and like the Wise Men saw their faith justified. They saw their dreams come true in the person of a healthy robust infant.

Today, we, who follow in the footsteps of the wise men of another generation, see agriculture and industry working together, supplementing each other for the benefit of the southern social structure. But the steps that have been taken in the South for business integration are, though steps in the right direction, merely first steps. Succeeding steps will be lengthened and quickened by the inclusion of scientific research into the economic picture.

The war has given a more than normal impetus to all branches of scientific inquiry. It has stimulated the thoughtful minds of men trained in their respective research subjects to such a point that their discoveries seem incredible, nay miraculous, to the ordinary layman.

Just as science is performing the unbelievable in its field so is industry, through progressive changes and improvements in manufacturing techniques, turning out more and better products than were dreamed possible a few years ago.

It does not require the vision of a seer to foretell the opportunities of any section richly endowed with natural blessings whose leaders can succeed in utilizing those blessings *at home* by coordinating the efforts of science and industry to originate, develop, produce and distribute finished goods from materials made available by their neighbors on farms and in mines. The result is a social trilogy each component part of which is complete in itself and at the same time fits into and takes its place in the overall economic structure.

The Southern Research Institute described in this issue in the first of two articles has been organized by unselfish leaders of Southern thought and deed. It was created with the purpose of improving the life and lot of every Southerner. That it will take long strides down the road toward the objective it has set for itself goes without saying when the character of the men who have sponsored it is considered.

Regulation Becoming Domination

"Old Man River" was probably rolling along before there were eyes of men to see it. It has had its floods and its droughts. These never have been and cannot now be dominated by man. Dykes, the best products of engineering thought, have been erected to regulate an occasional condition caused by nature. To a very large extent they have been successful. They have kept "Old Man River" within reasonable bounds. They have not controlled, nor been able to control, the causes of nature's vagaries.

Rains and droughts affect the agricultural production of our nation. Man-made plans can be made to partly compensate for both. But those plans cannot control the rain or the drought.

Man lives in a society of his fellow-men and of necessity must submit as an individual to necessary restrictive social rules that make him a member of that society. But this does not mean that his personal life should be dominated. That can be no more done to a free man than it can be done to the rise and fall of the Mississippi River.

Man ascends to importance to himself and to his fellow men when he senses the divine inspiration that compels him to think his own individual thoughts and direct those thoughts for the benefit of his fellows as well as for himself.

The individual from the hinterland of our folk lore who discovered the principle of the wheel was a genius of his day. He revolutionized human life. If the Chief of his tribe had compelled him to break the wheel and condemned him to death before he could build another or tell anyone of his invention, humanity would still be living in caves and carrying clubs.

Archimedes was not persecuted for perfecting the principle of the lever.

Newton's discovery of the Law of Gravity was considered as an advance in human development.

Fulton's little Hudson steamboat was the spark that knitted the whole world together and the Wright Brothers at Kittyhawk opened up the airways that make Fulton's cloth just a little doily on the table of thought for all of us.

Alexander Graham Bell, Thomas Edison, Marconi, the pioneers of the automobile, and others too numerous to mention, have been responsible for the social and economic progress, not only of America, but of the world.

There are also the comparatively unknown little fellows who use their mentality and their integrity and their interests in their community and their nation for the community good and for the national good. These men are very seldom praised and usually do not want praise, but they are the founts of progress. Such men accept their responsibilities seriously. They try to do their jobs thoroughly. They bend their brains toward working out better methods of doing things with the hope that they are helping to create better people in their own and future generations.

Social control is necessary to just that limited extent that it enables each one of us to understand and cooperate and live in amity with the other. Domination which attempts to forbid or compel the action of any individual member of society to that extent destroys the mental force of the individual which is the originating creative force of all progress.

"Gone With the Wind"

The fifth Amendment to the Constitution of the United States reads, in part as follows:

No person shall——be deprived of life, liberty, or property, without due process of law; ———.

Section one of the thirteenth Amendment reads as follows:

Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.

The "Employment Stabilization Program" promulgated by the War Manpower Commission seems to have entirely overlooked both the letter and the spirit of these two constitutional provisions. We quote one paragraph from a directive dated June 24th issued from the Baltimore offices of the War Manpower Commission:

In accordance with the new national policy the Area Director of the War Manpower Commission for the Baltimore Area with the concurrence of the Management-Labor Committee has amended, effective July 1, 1944, the above regulations for the Baltimore Area, so as to provide that NO MALE WORKER may be hired for new employment except upon referral by or in accordance with arrangements approved by the United States Employment Service.

If the right to the exercise of his own free choice in the selection of an occupation is not depriving a man of his liberty then the meaning of the word has been changed. It would be interesting to learn the new definition of the word "liberty" that has displaced the old "horse and buggy" one.

The right to work for pay coupled with the workman's ability to work, be he day laborer or university president, constitutes his "stock in trade." It is his property and when his right to it is abridged by fiat he has been deprived of that most valuable of all property his ownership of himself.

If a man is compelled by any force other than that of his own volition to remain at work that he wishes to leave, and that force can be intimidation as well as bars or fetters, then that man is in a state of involuntary servitude.

These contraventions of the Constitution are not the results of laws passed by Congress and approved by the President. They are merely the creations of the creatures themselves created by an administrative commission.

France Played this Game

Once upon a time, so runs an old story, there was a gambler who was dying and called his only son to his bedside. "My son" he said, "I have none of this world's goods to leave you. I have nothing at all for you except a piece of advice, but if you will heed that advice you will not approach your grave the poor and pitiable object that I am. Here is the advice which is your only inheritance: Never play the other man's game. If he offers to bet you ten dollars that he can make the jack of spades jump up out of the deck and sock you in the eye you will not only lose your ten dollars but you will get a black eye."

There is a moral for business in this old story. Farmers have organized, labor has organized, political groups and gangs have organized and are urging business to organize, and forget the individuality of the component parts that have made it the wonder of the modern world. The professional players now urge business to sit in the game with the government dealing the cards, dealing from a deck that has been stacked against business. Government, the dealer, also urges business to "sit-in," so that the size of its "kitty" will grow, and its prestige as dealer will increase with its favorite players as new deal follows new deal.

Business would not even be tempted to enter the game of minority bloc pressure politics as a political unit were it not for the fact that it now sees one-sided laws enacted, administered and even adjudicated for the benefit of selfish, organized class groups so that the new dealer (new since 1933) can continue to perpetuate his job as dealer.

The political philosophy of "new dealerism" is the old philosophy best described as "divide and rule." It may be summed up as government of, by and for politically articulate classes. Of course this philosophy of government, to function, had to have "classes." So it proceeded to encourage the "class" idea in an America that had grown to take for granted the fact that success in any field was limited only by individual ability and determination. It fertilized the soil from which has grown the group organizer who lives on the levy that he can exact from his dupes and through these organizers has influenced the minds of thoughtless men to believe that once a canal boatman always a canal boatman and never a President Garfield.

Business must never make the mistake of aligning itself as an organized unit either with or against any political pressure group. Anti-trust laws prevent it from organizing as an economic unit. The political bases of our government "government of the people, by the people and for the people," ignored by unscrupulous and near-sighted schismatics, prevent it from organizing as a political group.

American History of Debt

Under the exigencies of the Revolutionary War, the United States of America was born with a public debt of \$19.32 per capita—George Washington starting out with an overall federal obligation of \$75,880,000.

In the last year of the John Adams administration, that per capita debt had been reduced to \$15.63, and Thomas Jefferson (*) pared it to \$7.35. There were, during the Jefferson and Madison administrations (eight years each; no third terms) two wars, one with Tripoli and one with England. There was, during the administration of James Monroe a business depression, and the debt during the latter's tenure had risen to \$9.45.

When Andrew Jackson (**) came into the presidency, the per capita debt had been cut to around \$4, and he eliminated it. In the last year of Martin Van Buren's administration it was 21 cents. Came the Mexican war under James K. Polk, and the "postwar spending," and the debt by Zachary Taylor's time was back to \$2.30. It dropped under Buchanan to \$1.01, hovering in the \$1-\$2-\$3 range until the Civil War sent it to \$77.97.

From that new peak, succeeding administrations reduced it practically without interruption for 26 years—through the administrations of Johnson, Grant, Hayes, Garfield, Arthur, the first Cleveland administration, and Harrison. William McKinley trimmed it, as did also Theodore Roosevelt, and this period included the Spanish-American War.

William H. Taft, and the first term of Woodrow Wilson, saw it stabilized and slashed. Then came World War I.

In 1917 it jumped from \$11.96 cents to \$28.57, and in 1918 to \$115.65. Eventually, as a consequence of the war, it went to \$228.32—the debt TOTAL being \$24,297,918,000 in 1920, and from that point it began to scale downward. It continued that trend until 1930, being \$131.49 in that year. The over-all debt was \$22,538,672,000 in 1933—Mr. Roosevelt's first year. From that point the debt mounted.

In 1941 (Pearl Harbor was December 7, 1941) the per capita debt had become \$368.08, last year it went to \$1,007.64, and on the basis of the Treasury's estimate is something like \$1,486 this year.

The history of public debt is interesting. Citizens unaware of the fact that they owe \$1,486 each should be told.

* ** Neither Jefferson nor Jackson believed "it didn't matter" because citizens "owed it to themselves." Jefferson Day and Jackson Day orators during the last decade have seldom mentioned these things. They don't bring the subject up. On the subject of public debt they usually are inarticulate.

Guest Editorial from Nashville (Tenn.) Banner.

Southern Research Institute

UNDER preparation in many localities in America and in other highly civilized lands are plans which, when effected, as they are certain to be, may well mean the economic ascendancy of those communities over all other parts of the world.

The great scheme of commerce is being refashioned by a tiny fraction of the people of the earth whose ideas converted into new and better peace-time products will mean improved health, higher living standards and the widest accumulation of culture, with all the desirable things of life that such attributes hold.

These are the infinitely small number out of the earth's vast population who are busy in scientific research laboratories searching for and creating new and improved products for distribution to the rest of the world.

We, in the southern region, must recognize that in research in the natural sciences we have in the past been highly deficient; that it is technological research, generally absent in the South, that creates new, finished goods, industries, and that the increase of technological research is perhaps the most important long range project in the South.

Other regions of our country are looking to the products of scientific laboratories to sustain and advance those regions, and in the postwar era to create for themselves an economy based on the type of finished products involving the highest of value added by the manufacturing process, paying the maximum of wages, and employing a labor force which on the whole will possess the ultimate in technological training and skill.

We in the South must face the fact that if we continue to grow only the things in agriculture that we have been growing, and no more cheaply, and use them in the same manner; if we continue to make only the things we have always made, and in the same unvarying way; if we use our forests and minerals only as they have been used in the past, we shall remain,

by

Thomas W. Martin

*Chairman of the Board of Trustees,
Southern Research Institute; President
Alabama Power Company
Birmingham, Ala.*

This is the first of two articles specially prepared for MANUFACTURERS RECORD by Mr. Martin. In it he tells why the Southern Research Institute has been established, its purpose and its place in the industrial and educational development of the South. The second article will appear in the September issue. Mr. Martin needs no introduction to our readers.—Editor.

as we have been, primarily a producer of raw materials.

It is imperative, therefore, that we in the South shall, with no loss of time, provide additional scientific facilities through which products of technical research can be created.

These truths have been obvious to many in our southern universities and to other thinkers, but realized by only too few of us in commerce and industry.

Southern Research Institute

For several years a group of business men in Alabama has been studying the need of adequate research facilities in the South. These men found that although southern universities and colleges have the scientific equipment and skill for teaching the natural sciences, and for undertaking certain fundamental research projects, there was a serious scarcity of research facilities for solving industrial problems on a commercial basis. Thus was indicated the vital need for an institution to undertake the business of doing research for industrial and trade establishments and associations; in short, to bridge the gap be-

tween pure and applied science.

Such an institution was incorporated in Alabama in 1941 and named the Alabama Research Institute. Its supporters soon realized, however, that, since scientific research knows no physical boundaries, its logical field of usefulness was regional rather than local. The name, therefore, was changed recently to the Southern Research Institute.

A Non-Profit Corporation

The Institute is a corporation without capital stock and is altogether non-profit to any of its members or to any individual. Any income from fees and earnings, and royalties derived from patents owned by the Institute, are bound by its Constitution to be devoted to additional research.

Purpose

The purpose of Southern Research Institute, broadly, is to direct scientific research to the end that new and improved products shall be created; to provide research facilities to existing establishments which do not have the equipment and specialized personnel to undertake the solution of their own technological problems; and to afford facilities to those industries which, although having well equipped laboratories of their own, find it advantageous from time to time to have certain types of research done in an atmosphere removed from all direct contact with their own production problems.

To this end, plans are under way for the establishment of a centrally located scientific laboratory in Birmingham, fully equipped to engage in industrial research; and with the best technical and scientific talent available.

Method of Operation

After long study it was the conviction of the Board of Trustees that the Institute could with best results follow the general pattern of Mellon Institute of Industrial Research,

Pittsburgh, and profit by the long experience of perhaps the most successful institution of its kind. Dr. Edward R. Weidlein, Director of that Institute, one of the Nation's truly great scientists, has given freely of his counsel and advice in our plans. Accordingly, the "fellowship" principle developed by Mellon Institute was adopted as the chief operating medium of Southern Research Institute.

By this method, the client will establish a "fellowship" in the Institute for the pursuit of the client's specific research problem. The fellowship will operate under a specific agreement between the sponsor and the Institute. All discoveries growing out of the investigation will become the exclusive property of the fellowship sponsor, and the Institute will assign all rights and patents to that sponsor.

Any association of manufacturers may also maintain fellowship in the Institute in behalf of those in an industry having problems of common interest which are so basic or of such general application, that the results of research thereon are of importance to all company-members.

Research in the Institute's Own Behalf

When the funds of the Institute permit, it will engage in certain research undertakings in its own behalf. These will include new uses for southern raw materials, and other problems the solution of which will add to the well being of the citizens of the southern states.

Use of the Institute

If southern industry is to keep pace with the modern trend, it must make larger annual appropriations for research an indispensable part of its annual operating budget. Many industries in the nation spend around two per cent of their gross sales for research; it is no less than imperative that we in the South strive to reach that figure.

No company is too small to undertake research. Many companies have grown from modest beginnings to become great enterprises through the fruits of scientific laboratories. With the technical facilities and scientific skill of the Research Institute, it should be unnecessary for small concerns to delay the study of

their research problems or to build their own facilities with expensive scientific apparatus in order to keep pace with their larger competitors.

Financing

If we are to have comprehensive research facilities in the southern region, they must be initially financed by those in industry and



Thomas W. Martin

commerce who stand to gain from them or will be benefited generally from the improvement of the South's economic position. Generally speaking, they are: Manufacturing enterprises — to whom facilities and scientific skill will be available for the solution of their problems on a definite basis of cost; trade and service establishments—who will share in the region's consequent increased purchasing power; public utilities which inescapably feel the impact of general higher economic attainments; farmers — whose markets are broadened; trade and industrial associations — who might enjoy in common the advancement of basic knowledge of their mutual products; those engaged in the professions—whose welfare is always commensurate with that of the community at large.

The Institute now (July 1, 1944) has nearly \$400,000 on hand, or definitely pledged, subscribed almost entirely by business men in Alabama, in amounts ranging from \$25 per year to \$25,000 a year for three years. Needless to say, this is just a

start. To equip the Institute adequately, to obtain the best scientific brains possible for its staff, and to assure operations for the first five year period will require a much greater sum. Men in commerce and industry in the other southern states are beginning to realize the potentialities of organized technological research. It is believed, therefore, that a genuine and substantial interest in research will spread throughout the region and that the additional needed funds will be made available by business men of the South.

The Treasury Department has ruled that all subscriptions and donations to the Institute are deductible for income tax purposes.

These publicly subscribed funds will be similar to the original capital funds of any other business establishment: They are to be used for installations and working capital until the Institute is earning an income of its own. It is hoped that an endowment fund will be accumulated within a few years from subscriptions and earnings to insure its continuing operation on an increasingly competent scale.

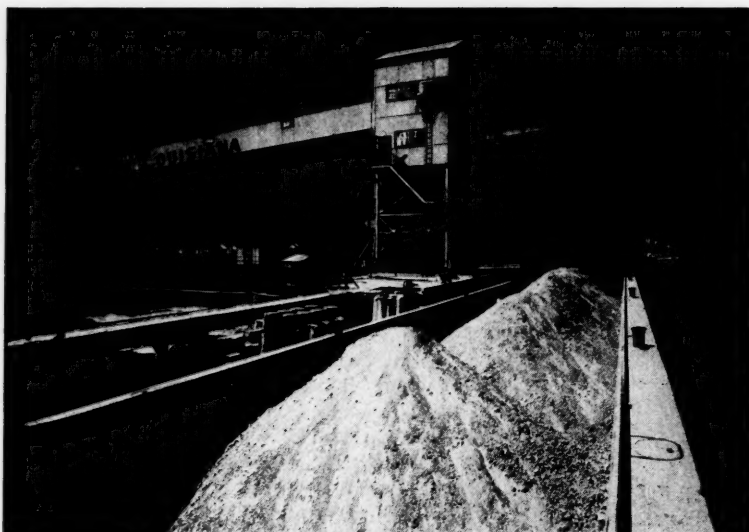
Consistent with the purpose that the Institute shall in time become self-sustaining, the following principles have been adopted:

1. All research undertaken for any person, industry or association, shall be paid for by those engaging the Institute.
2. No contributor, no matter how large his contribution, shall be entitled to research work without full payment therefor, and no contributor shall have any preference over smaller subscribers or over any other client whether that client be a member of the Institute or a non-member.

Cooperation with Educational Institutions

Although applied research is its primary function, investigations in the field of pure research will have an important part in the Institute's program. It is the present thought that subjects in this field will very largely be placed by the Institute with those southern institutions of higher learning, which are best equipped to handle them.

(Continued on page 58)



Barges being loaded with sulphur at Port Sulphur, La.

Sulphur's Increasing Uses

THE South is supplying the full demands of wartime industry for sulphur, one of the most versatile and widely used raw materials.

Since the beginning of the war in 1939, annual sulphur consumption in the United States has increased about 60 per cent. Production and productive facilities have been so maintained, however, that rationing and allocation of sulphur have not been necessary. Sulphur is one of the very few raw materials in this fortunate group.

In the war effort sulphur, either

in the form of sulphuric acid or in other forms, is finding many new uses in addition to serving in such standard roles as refining petroleum, pickling steel, refining metals, and producing chemicals, explosives, paper, rayon, fertilizers, fungicides and insecticides.

Among the newer and more interesting developments in which sulphur has had a part are: a new sulphonated detergent first produced last year and now 100 per cent allocated to the Navy, the greatly expanded use of sulphuric acid and

its derivatives for flameproofing of textile materials for the services, improved food preservation through new methods of using sulphur dioxide, and a process for treating grain flours with sulphite solutions to improve fermentation and yield a valuable by-product protein.

While the rubber industry did not in pre-war years take more than $\frac{3}{4}$ per cent of the annual production of sulphur, the abrupt change to synthetic rubber made necessary by the war has raised the question of sulphur requirements in this new development. The multiplicity of processes and raw materials makes exact analysis impossible, but sulphuric acid is used in the preparation of many of the raw materials by most of the processes. It is used in the preparation of butadiene from petroleum gases, of alcohol for butadiene whether from grain by fermentation or from olefine gases by hydrolysis, and usually enters into purification or catalysis at some stage. For Buna S, the principal synthetic being produced, sulphuric acid is used to coagulate the latex soap emulsion, and about the same amount of sulphur is required for vulcanization as was used with natural rubber.

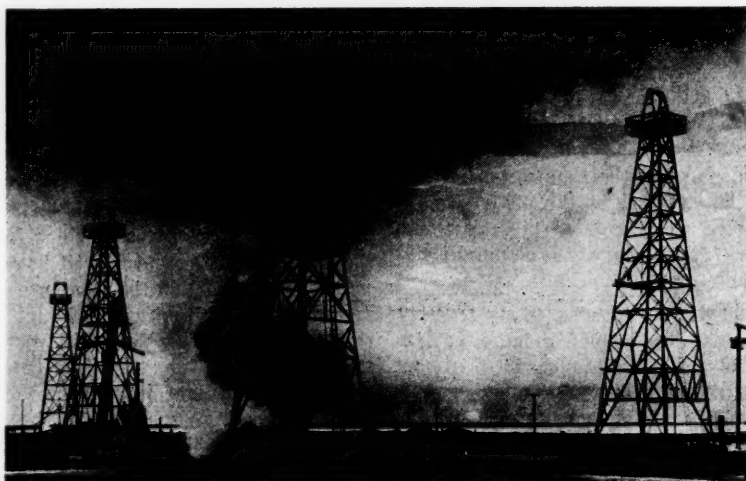
Tires made from synthetic rubber use high strength viscose rayon cord because of its superior resistance to the higher internal temperatures developed by synthetic tires, and viscose rayon uses large amounts of sulphur as calcium bisulphite in preparation of the original cellulose, as carbon bisulphite in the viscose reaction and as sulphuric acid in the spinning bath.

A major war problem of the United Nations is the feeding of the liberated peoples as well as ourselves. More fertilizer and still more fertilizer is the only answer to impoverished fields and stricken farms in Europe, and to greater food needs and smaller manpower supply here at home.

The War Food Administration has sponsored a large-scale fertilizer program designed to increase output of America's farms without use of additional labor and machinery. Fertilizer production before the war in 1938 was 7,500,000 tons, in 1941 it had grown to 9,000,000 tons, in 1942 to 10,000,000 tons, and in the present crop year ending July it is

(Continued on page 56)

The Frasch process involves drilling wells to the sulphur, which may be as deep as 2,000 feet below the surface.



Planned Materials Handling a Vital Part of Planned Output

by
Ezra W. Clark
Vice-President and General
Manager
CLARK TRUTRACTOR DIVISION

THIS is the story of John Jones, manufacturer, who worked out a factory routine which was the envy of all who saw it operate.

Not the least factor in Jones' mastery of volume production at low cost was a materials handling system which defied all efforts to improve it. No matter how good a thing was—be it product, machine, material, method—the Jones' view was that it couldn't be perfect; and never did he relax his vigilant search for ways to make it better.

Fundamentally, the success of the Jones method of handling materials was due to one exceedingly simple discovery of the obvious fact: Proper materials handling must be planned and developed as an inte-

grated part of planned production.

Materials handling is not a thing by itself—it must be studied and perfected as a part of the over-all production plan.

In the pre-war Jones plant was to be found every conceivable labor-saving and time-saving method and device. Materials schedules were planned down to minutest details—and strictly observed. Materials flowed in on punctually kept time-tables, were stored where they could be most easily fed to the production lines. Best proof of the system's effectiveness was that it worked.

With advent of war Jones and Co., along with thousands of others, old and new, became a unit in America's vast war production. "Make it better, make it in enormous quantities—and make it faster," that was the modest assignment laid on the desk of American industry. So industry got busy and did all three.

Material, methods, designs—all were studied to find better ways, short cuts, faster methods. Along with every other phase and operation of modern manufacturing, materials handling came in for its share of attention. Materials had to be handled faster and more efficiently, in order to get the work done on time.

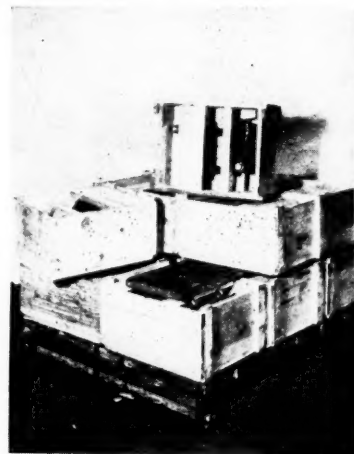
John Jones, always on the alert, tackled the problem—and got results.

He found, for one good example, that a major unit purchased complete from an outside supplier, reached his plant securely crated—two units to the crate. After removal from the cars, these units were first uncrated, then put in stock on low shelves for easy accessibility, and fed as needed to the assembly lines.

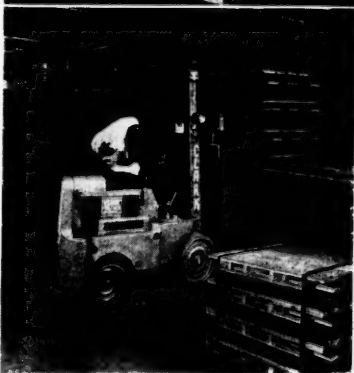
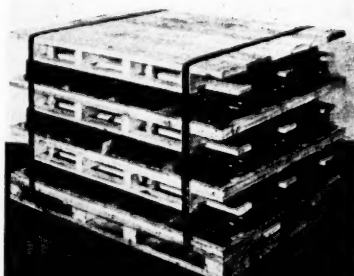
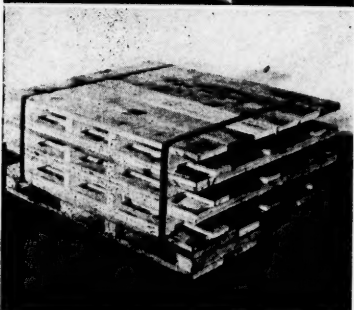
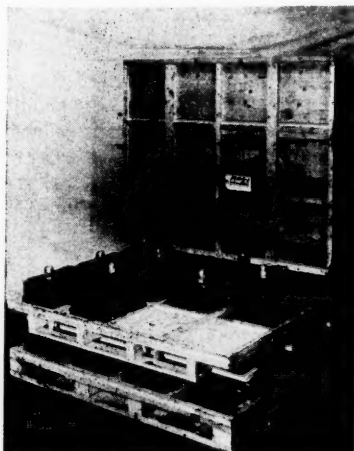
Time studies revealed that crating required nearly 20 minutes and uncrating took another 20 minutes—counting all the operations involved. Here was a fruitful field for sav-

(Continued on page 46)

Below—Shipments were originally made in the type of box shown in the top picture. The redesigned pallet is shown in the middle view. In the bottom illustration an industrial fork truck transports and stores the pallets of valves.



Below—A knocked down view showing construction of the unit pallet. The knocked-down unit pallet is pictured in the bottom picture strapped for reshipment.



The South Has No Race Problem

THE South has no problem in connection with its race relations. The South has a race situation but no race problem. To say that the South has a problem would indicate that the South has not yet decided the best way to handle its relationship with the Negro. This is not the case. There has never been any question in the mind of the South as to the best way to handle it.

The South at one time did have a slavery problem. That problem was settled at Appomattox. Before this problem reached a state of war there was strong national sentiment to settle it by freeing the slaves and having the government reimburse the owners for the value.

The paradox of the Civil War, however, was that while the South was forced to free its slaves yet the South was left with the Negro race as a yoke around its neck. The slaves were free but the South was not. The Negroes were unable to take care of themselves; certainly not in the traditional way that Americans have been expected to take care of themselves. It must be said to the credit of the South that they did no worse than relegate the Negro race to a subordinate position in the life of the Southern people. Other dominating races in other countries at other times have done much less. It may be doubted that the Negroes would have fared so well outside the South even in our own country.

Let's consider that a moment. The South has been accused of being unjust to the Negro and discriminating against him whereas the rest of the country was not doing so. Why, then, haven't the Negroes during the past eighty years left that part of the country where they have been so badly treated and gone to those other parts of the country where they are received on "equal" terms? "The proof of the pudding is in the eating thereof." Taking the South as a whole approximately 33-1/3 per cent of its population are Negro whereas for the nation as a whole only 10 per cent are Negro and for the area outside of the South only 3 1/2 per cent are Negro. These percentages have remained so nearly constant over all these years that we

by

Thurman Sensing

*Director of Research,
Southern States Industrial Council,
Nashville, Tenn.*

may consider invalid any claim by anyone, white or black, that the Negro receives better treatment outside of the South than he does in the South.

How does the South treat the Negroes? By the only way under natural laws they can be treated—by segregation. The Negro race did not come to America of its own free will. The Negroes did not come here as immigrants. If no Negroes were in this country at the present time, it is to be doubted that under our immigration laws any would be allowed to enter. The sensible people of both races realize that segregation is the only sound way to handle the situation. Segregation is not discrimination, a fact that many people are prone to overlook. Segregation is best for both peoples. It permits the development of pride of race, without which no people can hope to progress. This principle does not apply to the Negro race alone. It would apply to any race.

The Negro race having been brought to this country by force and then having been made free people by force were more of a situation to be handled than a problem to be solved. The South has simply been honest about the matter while the rest of the country has not. The South handled the problem by segregation without any claim of granting equality while the rest of the country claimed to grant equality and non-discrimination but has failed to practice it.

Let us assume for a moment the attitude of the people outside the South toward the Negro. They do not segregate him or at least they make an appearance of not doing so and therefore claim they do not discriminate against him. As a matter of fact they do segregate the Negro in many places, such as hotels,

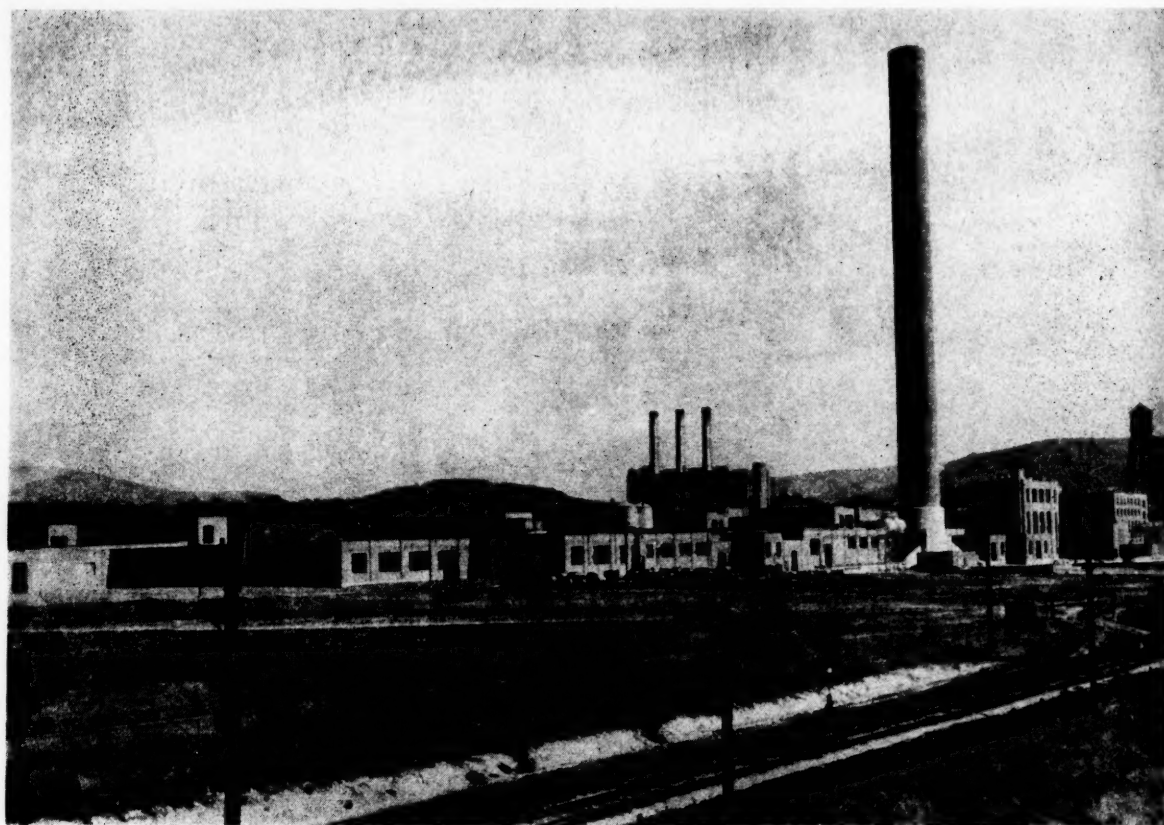
restaurants, and so on, but not in the schools and churches and on the trains and in public conveyances as is done down South. But are the Negroes really welcome in these places? They are not. Their presence is resented. Their association is endured.

The Negro children struggle along in school seated beside the white children where their presence is usually resented or at best tolerated. After they finally secure their diplomas these Negroes, regardless of their qualifications, are relegated as a rule to unimportant, undesirable work. The training of these Negroes has been such that they are not acceptable in the South for the filling of such positions among the Negroes of the South. Their attitudes are such that they just do not fit in.

On the other hand in the South, through the practice of segregation, Negroes are trained for the professions in their own schools and they have their own organizations in which to practice their professions or trades after the training is finished. They are able to rise in their professions and thus they are able to maintain a self-respect and racial integrity that they cannot have in the North.

It is to be believed that the people of the South have a greater respect for their moral obligations toward the Negro race than might be true of any other people anywhere. The people of the South owned the Negroes as slaves and when they were freed by an outside force the Southerners might well have been expected to repudiate all obligations toward them as a race. Such was not the case. For many years, bled white by the war, the people of the South were not able to take care of themselves in any decent manner, much less the Negroes. As conditions improved, however, better facilities were made available for the Negroes and now on the whole they have educational facilities comparable to those of the white people. Much better as a matter of fact than the contributions of the Negroes toward the support of these schools would justify on a strictly financial basis.

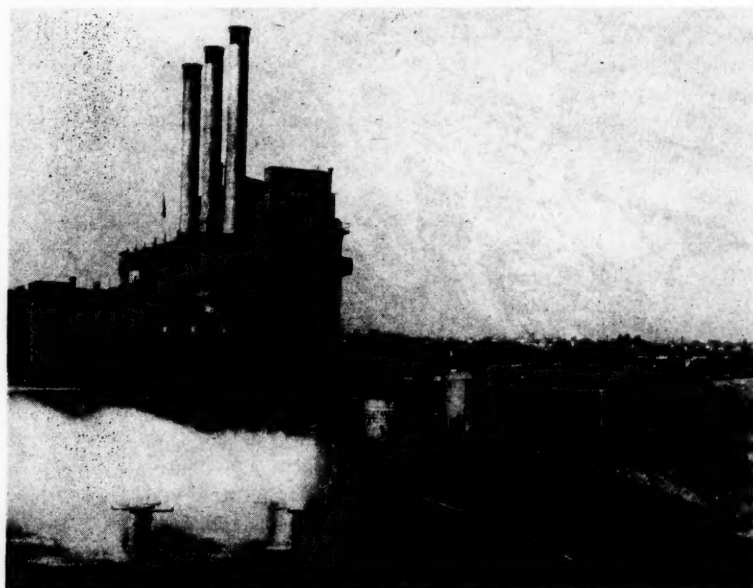
(Continued on page 54)



Front Royal plant of American Viscose Corporation.

Viscose Addition Slated for Finish Late this Year

Power house at Front Royal for producing a constant supply of 24,000 kilowatts. Spray pond in the foreground.

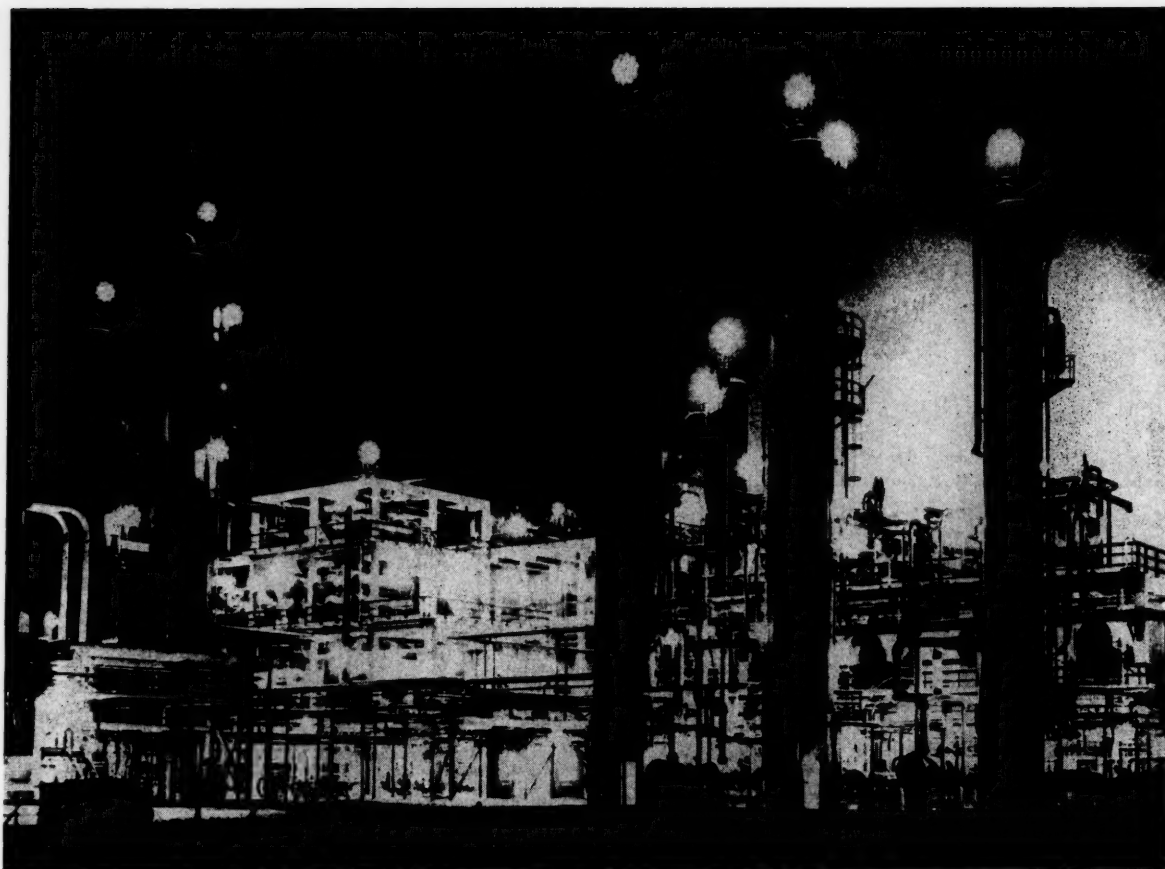


CONSTRUCTION work on expansion of the American Viscose Corporation's rayon producing plant at Front Royal, Va., started in the spring of this year, is now well under way. It is expected that part of the new facilities will be placed in operation the latter part of 1944, and the remainder will be completed during the first half of next year.

The purpose of expanding the Front Royal plant is to increase its output of high-strength rayon yarn of the type used in tire fabric. Production will be raised from approximately 25,000,000 pounds to 82,000,000 pounds annually. This will make the plant the largest single unit in the United States devoted to the production of high-strength rayon yarn.

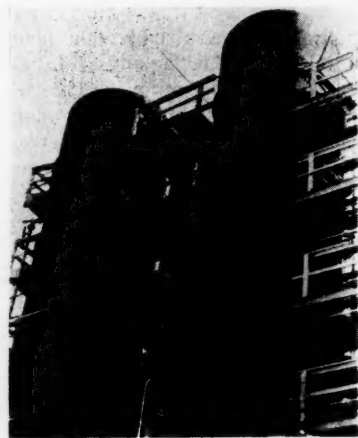
High-strength rayon of the type manufactured at Front Royal is used by the Army and Navy in fabric for the tires of bombers, fighting planes, trucks, combat cars, and other motor vehicles, and in heavy duty tires for commercial trucks and buses. It is regarded as essential

(Continued on page 64)



World's Largest Integrated High Octane - Rubber Operation

Top of page—Part of the Cities Service refinery at Lake Charles, La. Several steps are taken in the unit illustrated to produce 100-octane gasoline. From here the aviation gasoline base goes to a chemical treating plant where sulphur compounds are removed prior to its being blended into its final state.



THE three plants recently dedicated at Lake Charles, La., form what is understood to be the first and only great integrated high octane, butadiene and synthetic rubber operation in the world. One of the plants daily produces enough high octane gasoline to power a 1,000 bomber raid from England to Germany; the second makes butadiene, and the third uses the output of the butadiene plant in manufacturing synthetic rubber equal to one-tenth of the nation's normal needs.

Partly privately financed and partly the result of the Federally furnished funds, the huge high oc-

tane-butadiene group occupies a site almost one square mile in area, while the adjacent copolymer plant, where the ingredients of the synthetic rubber are combined by the Firestone Tire & Rubber Company to turn out the finished man-made rubber, raises that area by seventy-eight acres. Manufacture of the high octane gasoline and the butadiene, the main ingredient in the synthetic rubber process, is under supervision of the Cities Service Refining Corporation.

The multi-million dollar 100-octane gasoline plant rose in two years from land where only pine trees and brushwood grew before. The refinery consists of chemical processing units required for a modern petroleum refinery, together with related facilities such as an electric and steam generating unit.

Left—One of the recovery towers at the Firestone-operated synthetic rubber plant.

a w
sho
adr
P
a r
40,0
uni
sem
and
five
nic
I
wit
to
uni
fra
gas
iso-
oct
pro
oth
T
cata
on
the
tem
a so
pow
from
to t
U
the
con
bro
buta
plan
uni
stoc
gas
C
Jon
tion
"the
its l
man
pro
be a
ties
econ
Ame
frui
sour
Righ
the t
the r
proce
to the
into
ing f
and
is o
alytic
refine

a water pumping station, a machine shop, a laboratory and cafeteria and administration building.

Each of the two topping units has a rated capacity for distillation of 40,000 barrels crude oil daily. These units embrace the only operation resembling the old fashioned refinery and break up the crude oil into the five principal parts which are technically referred to as fractions.

Products of the topping units, with exception of kerosene, are used to feed the other more intricate units. These include a straight run fractionation unit to break the gasoline from the topping units into iso-pentane, an ingredient of 100-octane aviation gasoline, and other products that are in turn fed to other units for further processing.

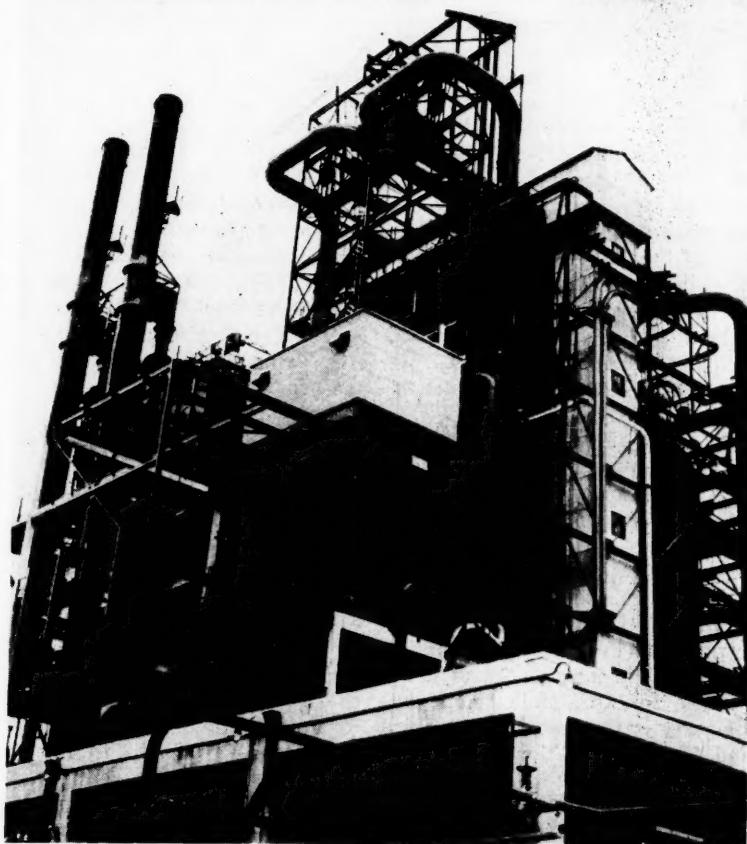
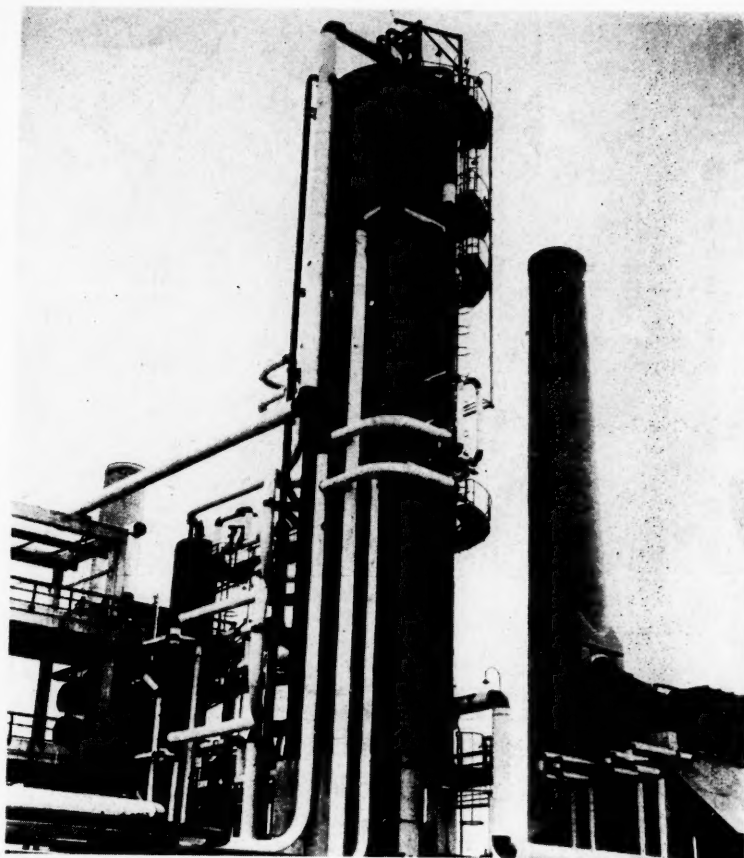
The refinery also includes three catalytic cracking units operating on what is generally referred to as the continuous fluid catalyst system, although the catalyst itself is a solid in the form of a finely divided powder. The light and heavy gas oils from the topping operations are fed to these "cat crackers."

Under extreme heat and pressure the gas and oils are brought into contact with the catalyst and thus broken up into such products as the butane delivered to the butadiene plant; pentane for the alkylation unit, and large quantities of base stocks for both aviation and motor gasoline.

Cities Service President W. Alton Jones, in his address at the dedication, expressed gratification that "the oil industry is fortunate in that its large expenditures of money and manpower appropriated solely to produce more munitions of war, will be able to use these expanded facilities in stabilizing our national economy when peace comes. If America is to enjoy quickly the fruits of victory," he said, "the resources of its industrial plants—

(Continued on page 50)

Right—In the top view is shown one of the two large capacity topping units at the new refinery. All crude oil to be processed in the refinery will be charged to these units where it will be converted into various petroleum products including feed stocks for the catalytic cracking and other units. In the lower view is one of the three mammoth catalytic cracking units in the Lake Charles refinery. Each is as high as a 20-story building.





The R. D. Cole plant in 1856

Ninety Years of Service

WITH ninety years of industrial progress and growth recorded, the R. D. Cole Manufacturing Company of Newnan, Georgia, on May 7, entered the final decade of a century of constructive service to the South and to the Nation. In normal times the occasion would have been one for special ceremonies, but the Company's contribution to the war effort is of such importance that the day was characterized only by the continuance of work in every department of the plant—100 per cent engaged in war production. This is the fourth major war in which the United States has engaged since the company was organized in 1854. Its contributions to all of them are industrial history.

Probably the oldest steel plate fabricating plant which has been in continuous operation under the same management since its organization, its policies of today are founded on principles laid down ninety years ago by the founders, R. D. and Matthew Cole who were unwavering in their determination to do every task well, with strict adherence to the simple belief that "honesty is the best policy." Third and fourth generation members of the Cole family, all of whom have been leaders in the industrial, civic and social life of the South, carry

on in the best traditions of their forbears.

Peace time production of R. D. Cole Manufacturing Company has consisted of steel boilers for industrial power and heating plants, processing vessels for the chemical and textile industries, and elevated steel water tanks for industrial and municipal water storage systems. Its elevated tanks for water storage have been erected in many parts of the United States and in Cuba and Central and South America. Always progressive and striving for the best possible product, the company has been in the forefront in the design of elevated tank installations, and has inaugurated many of the changes that have, through the years, brought about more architecturally symmetrical structures.

During the War Between the States the company manufactured wagons for the Armies of the Confederacy. In the war with Spain it again supplied our Armies with field equipment, while in World War I its facilities were used largely for making ship accessories, also chemical and storage tanks were produced for ordnance plants.

In the early stages of this war the company's operations were confined largely to the manufacture and erection of elevated tanks for water

supply and fire protection systems at various Army and Navy bases and installations. This program nearly completed, the next job was started—construction of ordnance equipment and tanks for various high-explosives plants.

As construction for the ordnance plants neared an end, the Cole company teamed up with the U. S. Coast Guard to design and construct new and all-welded type buoys. These were built in large numbers and are now safety markers for our naval craft in countless harbors and sea lanes. With this program nearly completed, it was a logical step to the production of prefabricated ship parts for the mighty shipbuilding program that has made our merchant fleet the greatest in the world.

There is no doubt that this well known Southern enterprise has been a large factor in supplying the nation with a shipping tonnage that has astounded the world; tonnage that is carrying the munitions of war to our men and our allies.

In August of 1943 the company and employees were honored by the Maritime Commission with the coveted Victory Fleet Flag, Maritime "M" Pennant and Merit Badges in recognition of their remarkable record of war production. A gold star has been added to the "M" Pennant,

signi
duct
Th
signi
men
fabr
stan
even
real
they
and
thou
gone
"T
fello
servi
thos
the
Brya
the
feels
their
now

R.
firm,
little
all w
time
ners
putt
estab
engin
Cour
first
The
teres
and
pres
til h
he w
Robe
was
eral
beca
Thes



signifying continued Maritime production merit.

The record of the company in designing machines, producing equipment, shipping thousands of prefabricated parts has been an outstanding accomplishment. It carries even more significance when it is realized that while doing all this they have trained new personnel and maintained their force, even though nearly 100 of their men have gone to the Armed services.

"The fact that so many of their fellow-workers are in the armed services has proven a stimulus to those who remain on the job 'to back the attack with production,'" said Bryan Blackburn, vice-president of the company, "and each of them feels an individual responsibility to their former shopmates, who are now serving their country."

R. D. Cole, Sr., founder of the firm, commenced operations with a little wood shop, without machinery, all work being done by hand. A short time later Mr. Cole formed a partnership with Thomas Barnes, each putting in \$750. A planing mill was established, run by a five-horsepower engine, the first ever brought to the County. Six men were employed. The first year's business totaled \$5,000. The following year Mr. Barnes' interest was bought by Matthew Cole, and the firm then became R. D. Cole and Brother. R. D. Cole served as president from its organization until his death in 1910, at which time he was succeeded by his nephew, Robert Duke Cole. In 1915, E. G. Cole was elected vice-president and general manager, and Bryan Blackburn became engineer and treasurer. These positions were occupied until

1942, when E. G. Cole was made president; Bryan Blackburn vice-president and treasurer, and T. K. Barron, secretary. Directors are E. G. Cole, Bryan Blackburn, Mrs. Ruth Cole Blackburn, Mrs. E. G. Cole, E. G. Cole, Jr., and Duke Cole Blackburn, the latter two now on leave of absence while serving in the United States Army.

Private Enterprise Threat

OUR daring forefathers who threw England's tea into Boston Harbor never thought of their safety or profit.

Our ill-fed, ill-clad, and ill-housed troops at Valley Forge thought not of their comforts or safety.

Those great men who appended their names—that all might read—to the Declaration of Independence, which established us as a Nation, cared little for their safety.

Our sons, who are so gallantly fighting today on the battle fronts of the world, think not of their safety. They willingly lay down their lives that principles of government—principles for which our forefathers also fought—may live.

One of those principles—private enterprise—is today threatened; threatened by policies promoted by persons who hold public office subject to the will of the President and who are, therefore, high in the council of the New Deal party.

They believe, or say they believe, that the "rebuilding of America"—to use their own phrase—must be done by bureaucratic dictation to private enterprise and controlled largely by Government spending and subsidy. While paying lip service to free enterprise, these advocates would subtly substitute a Gov-

ernment-planned and dominated economy for our system, which has given us the greatest liberty and the highest living standard experienced by any country in the history of the world.

These 11-year pests swarm through the lobbies of Congress and the cocktail bars of Washington spreading their poisonous New Deal philosophy. They burrow through the fabric of our Government like unseeing moles.

Their foreign philosophy, put forth under the guise of restoring democracy to the people, is incompatible with every form of freedom, for it concentrates all political and economic power in the same hands which always has and always will result in tyranny.

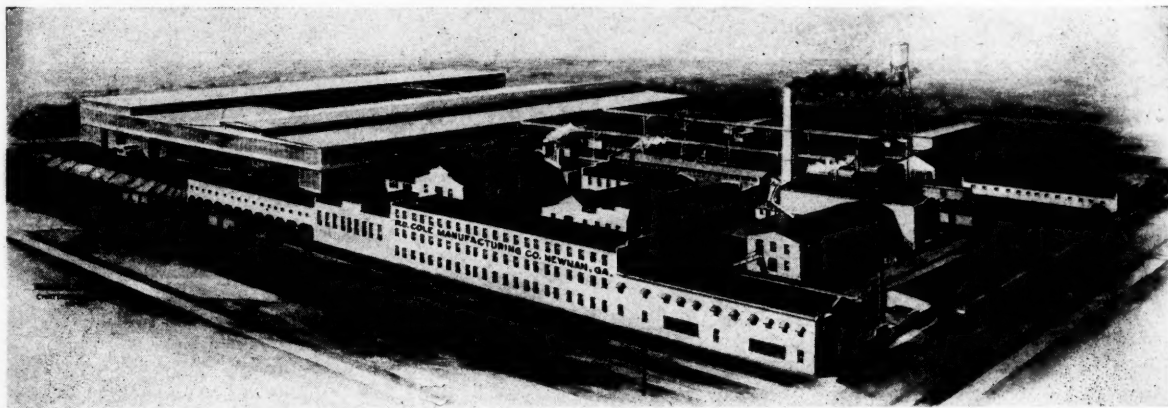
Recognizing that there is no human being to whom we can safely entrust concentration of political or economic power, our founding fathers wisely adopted a Constitution to prevent concentration of political power and enacted laws to prevent concentration of economic power.

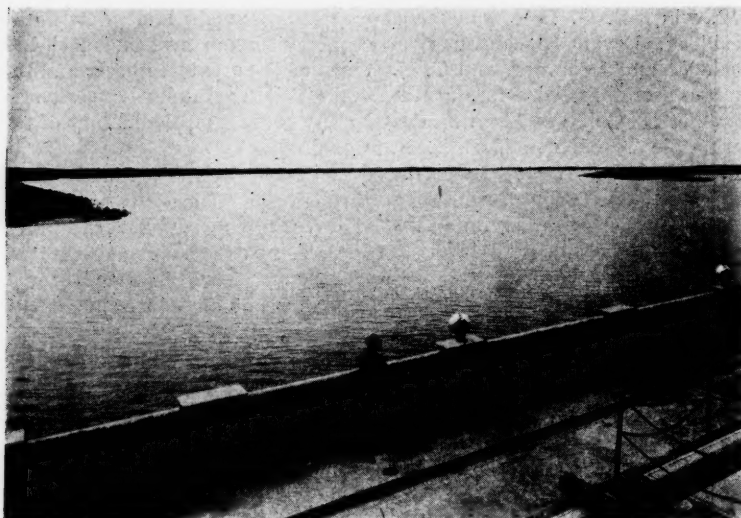
To prevent concentration of political power in Government, they divided it between the Federal and State Governments, and further divided it among the executive, judicial, and legislative branches of each government.

To prevent concentration of economic power in government, our founders prohibited the taking of private property without "due process of law and just compensation." However, today, in the name of national emergency, Washington bureaucrats issue directives, signed by the President, taking over private

(Continued on page 60)

The Cole plant today.





Reservoir looking West from the intake structure.

Denison Dam Opens New Industrial Potentialities

THE abundant supply of water created by the completion of Denison Dam makes the area an ideal location for the establishment of large industries to supply the rapidly growing Southwest.

A qualitative water analysis study is being financed by the cities of Denison and Sherman in coopera-

tion with U. S. Geological Survey to fully determine the suitability of Denison Dam reservoir water for industrial usage. Initial studies indicate a better quality than local business interests had anticipated.

Denison Dam, recently completed by the U. S. Army Engineer Corps, Denison District, at a cost of \$54,-

000,000 has formed a lake of 140 square mile surface or storage capacity of 5,825,000 acre feet.

The main embankment of Denison Dam is three miles long with a dyke extension of 7,800 feet. In the outlet works there are eight conduits, 1,000 feet long and twenty feet in diameter with gate towers at the upstream end and a stilling basin and powerhouse below the downstream ends of the conduits. During floods, excess water will be diverted over a 2,000 foot wide concrete spillway into a channel and thus back into the river.

The dam is the largest earthen rolled-filled structure in the nation and the reservoir is the fifth largest artificial lake on the continent. The project was authorized by Congress in 1938 for flood control and hydroelectric power.

Power from the generating plant which is built into the dam, will be fed into transmission systems of the Texas Power & Light Co., and Oklahoma Gas and Electric Co. under contracts between these companies and the Southwest Power Administration. These companies have been serving the region contiguous to the dam for many years and although each had sufficient generating capacity for immediate and future demands, the companies agreed to utilize the dam's power output in these respective areas, for service to the public at large and the Army camps and war industries.

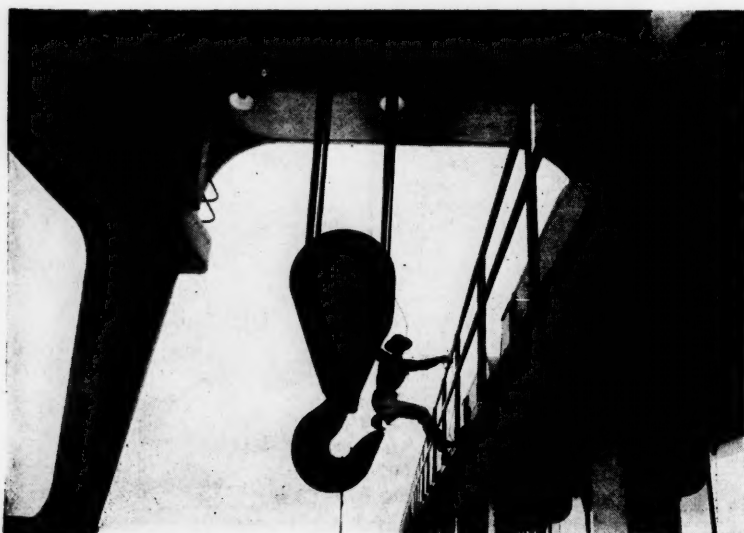
The Texas Power & Light Company Survey made at the request of the Industrial Committee, Denison Chamber of Commerce reports:

The water supply available at Denison both as to quantity and quality would be adequate and acceptable to the manufacture of fertilizer, plastics, synthetic rubber, caustic soda and other heavy chemicals.

Aside from the industrial potentialities, Denison Dam has formed a lake that promises to become the Playground of the Southwest. Simultaneously with the construction of the dam, plans were drawn by the National Park Service for the post-war recreational development of the area. Two major resorts, one on the Texas side, the other in Oklahoma, have been plotted for the peninsulas of Washita Point and Preston Bend. Plans call for the

(Continued on page 52)

Huge 120-ton gantry crane that works the control gates on Denison Dam conduits.



140
age

son
yke
tlet
000
eter
am
ver-
s of
ress
000
o a
ver.
hen
ion
rest
The
ress
tro-

ant
be
the
cla-
der
ies
in-
ave
ous
nd
at-
nd
ies
ver
for
he

m-
of
on

at
nd
ac-
of
er,
ni-

n-
a
he
st.
ac-
yn
he
nt
ne
a-
ne
nd
ne

R

J
S

PRIV
Ass
to
Com
FI
Res
De
Off

INDU
PUBL
City
Hou
Sche

ENGI
Dan
po
Fed
Sew

ROAD

TO

Alabar
Arkane
Distric
Florid
Georgi
Kentuc
Louisia
Maryla
Mississ
Missou
North
Oklaho
South
Tennes
Texas
Virgini
West

TO

JUL

June Contracts Total \$70,901,000

Six Month Total
\$403,957,000

by
Samuel A. Lauver
News Editor

THE June total for Southern construction was \$70,901,000, the second highest monthly figure in the six-month accumulation of \$403,957,000. The June figure represented an eleven per cent increase over the figure for the preceding month, although both it and the six-month figure were below the levels for the comparable periods of last year.

Public building, public engineering, private building and highway award valuations increased during June. Industrial construction awards, however, dropped in value from those of May.

Valuations placed on the various types of construction, in the order of their importance during June, were: Public building, \$23,675,000; industrial, \$14,676,000; public engineering, \$14,482,000; highways and bridges, \$12,331,000, and private building, \$5,737,000.

Southern industrial construction, placed under contract and proposed during June, ran the gamut of the many ac-

tivities below the Mason and Dixon line. Refrigeration in the form of quick freezing and locker plants showed increasing momentum. Other food handling projects included grain elevators and a dehydration plant, as well as alcohol factory additions.

Expansion in the heavier industries included shipbuilding and drydock construction, a rolling mill addition, an iron works extension, a steel and iron plant, a casting plant, an addition to an automotive plant, a carbon plant addition, additional steel plant equipment and an enlargement of a sanitary manufacturing plant.

Railroad spur construction, a telephone building and a radio station were the highlights in transportation and communications projects. Other industrial expansions were started or were in prospect in clothing and furniture fields, in airplane manufacture, bag making, chemicals, woodworking and machinery, and glass bottle manufacture.

Most of the larger projects were the result of Defense Plant Corporation participation. These were a \$3,000,000 addition to a DuPont plant at Louisville, Ky.; facilities to cost \$1,000,000 at the St. Louis, Mo., plant of the National Carbon Co.; a \$1,000,000 extension at Shreveport, La., for J. B. Beard Co., manufacturers of castings and oil refinery materials.

The big Excelsior Mills project now under construction at Clemson, S. C., was the recipient of additional funds amounting to \$700,000, as was another South Carolina project at Marion operated by Synthetic Fabrics, Inc., which was allotted \$220,000 in DFC money. Additional facilities at the Fort Worth, Texas, plant of American Cyanamid & Chemical Corp. will cost \$175,000.

Percentage increases for the several categories of southern construction, as tabulated during June, were: Public building, 58 per cent; public engineering, 36 per cent; private building, five per cent, and highways, less than one per cent. The drop in industrial contracts, as compared with May figures, was 33 per cent.

The June public building total embraced \$14,187,000 for public structures, mostly Federal, \$6,718,000 for public housing and \$2,770,000 for schools.

The preponderance of the June public engineering figure was the \$9,793,000 for earthwork and airports, with \$4,685,000 for sewers and waterworks ranking second and a small figure for rural electric work.

The private building figure in June, as in the preceding months, was mostly for residential construction, the total being \$4,808,000. Assembly buildings, however, represented a \$389,000 total; commercial structures, a total of \$455,000.

South's Construction by Types

	June, 1944		Contracts Awarded First Six Months 1944	Contracts Awarded First Six Months 1943
	Contracts Awarded	Contracts to be Awarded		
PRIVATE BUILDING				
Assembly (Churches, Theatres, Auditoriums, Fraternal)	\$ 389,000	\$ 1,921,000	\$ 1,844,000	\$ 772,000
Commercial (Stores, Restaurants, Filling Stations, Garages)	455,000	420,000	1,397,000	479,000
Residential (Apartments, Hotels, Dwellings)	4,808,000	3,462,000	30,383,000	29,246,000
Office	85,000	3,085,000	154,000	20,000
	\$ 5,737,000	\$ 8,888,000	\$ 33,778,000	\$ 30,517,000
INDUSTRIAL	\$14,676,099	\$ 2,320,000	\$ 95,993,000	\$186,955,000
PUBLIC BUILDING				
City, County, State, Federal	\$14,187,000	\$ 28,299,000	\$ 77,888,000	\$265,873,000
Housing	6,718,000	2,333,000	33,646,000	124,711,000
Schools	2,770,000	6,857,000	6,650,000	8,796,000
	\$23,675,000	\$ 37,489,000	\$118,184,000	\$399,380,000
ENGINEERING				
Dams, Drainage, Earthwork, Airports	\$ 9,793,000	\$ 20,415,000	\$ 94,271,000	\$160,930,000
Federal, County, Municipal, Electric Sewers and Waterworks	4,685,000	6,356,000	14,191,000	3,822,000
	\$14,482,000	\$ 27,339,000	\$108,915,000	\$166,442,000
ROADS, STREETS AND BRIDGES...	\$12,331,000	\$ 35,397,000	\$ 47,087,000	\$ 65,487,000
TOTAL	\$70,901,000	\$111,433,000	\$403,957,000	\$868,781,000

South's Construction by States

	June, 1944		Contracts Awarded First Six Months 1944	Contracts Awarded First Six Months 1943
	Contracts Awarded	Contracts to be Awarded		
Alabama	\$ 2,576,000	\$ 1,590,000	\$ 24,413,000	\$ 25,991,000
Arkansas	454,000	1,562,000	1,873,000	26,471,000
District of Columbia	1,203,000	1,104,000	12,715,000	10,313,000
Florida	10,021,000	4,370,000	51,597,000	109,037,000
Georgia	4,914,000	3,649,000	24,769,000	37,561,000
Kentucky	3,959,000	910,000	16,248,000	21,875,000
Louisiana	4,952,000	12,513,000	28,324,000	39,778,000
Maryland	6,378,000	7,804,000	30,907,000	61,118,000
Mississippi	2,106,000	1,222,000	7,081,000	25,675,000
Missouri	3,738,000	4,634,000	15,430,000	14,290,000
North Carolina	2,787,000	4,392,000	13,923,000	31,684,000
Oklahoma	1,624,000	4,913,000	15,234,000	70,558,000
South Carolina	3,084,000	2,049,000	13,550,000	31,480,000
Tennessee	3,396,000	3,956,000	13,991,000	64,284,000
Texas	10,150,000	28,553,000	73,250,000	222,411,000
Virginia	8,384,000	15,390,000	49,347,000	48,769,000
West Virginia	1,263,000	12,812,000	11,305,000	7,486,000
TOTAL	\$70,901,000	\$111,433,000	\$403,957,000	\$868,781,000

Profit and Loss

by

Don Knowlton

EACH spring most large corporations publish what is traditionally called a statement of "Profit and Loss." This is a financial table purporting to show what the corporation took in as income, how much money it spent and for what purposes, and how much, if any, was left as profit.

I say "purporting to show," because the "profit and loss" statement does not show a corporation's "profit" in the layman's sense of the term. The Century Dictionary definition of profit which I think comes closest to the widespread connotation of the word is "pecuniary gain in any action or occupation." In short, most people think of profit as money. But corporate profits, as reported in "profit and loss" statements, do not mean actual money. They are an accountant's device for measuring a year's net accumulation in terms of dollars as a common denominator.

For instance—a farmer, at the end of the year, may be ahead of where he was a year previously by \$10, one cow, and two-thirds of a sheep. To express this in a single figure, you must reduce the cow and the better part of the sheep to dollars. Figured on a corporation basis, this fellow's "net profit" may be \$100—but only \$10 of it is money. How he comes out on the other \$90 depends on what happens, next year, to the cow and the sheep. So, in a corporation, a large share of profits may represent buildings, machinery, and work in process—measured in dollars because the dollar is the unit of measurement in accounting, just as the foot is the unit of measurement in surveying.

And today, with the postwar tax refund and renegotiation, the poor old "profit and loss" statement has lost all pretense of being a factual document (it was only an accountant's estimate anyhow) and has plunged into the realm of fiction.

Some years ago, corporations were not inclined to make public their financial affairs. We passed laws to take care of that. In recent years, however, most corporations have come to understand the old adage that the truth is the best defense, and that factual public reporting as to the money they take in, and what happens to it, is their best safeguard against slander.

But what a paradox. Now that corporations are begging to give the people the facts, they can't do it. They are caught in the spiderweb of accounting tradition and rulings by the Treasury Department and the Securities and Exchange Commission—until today they find themselves compelled by law to publish figures that give the public, who think that reported profits represent cash, a distorted and fantastic conception of the extent of "war profits."

Just what is the "Profit and Loss" statement? Let's take a look at it. Not in

terms of \$1,000,000 or \$20,000,000 or \$500,000,000—let's whittle it down to \$100, where anybody can understand it.

George Spelvin, Inc.

Let's suppose our old friend George Spelvin gave up the stage forever. Let's suppose he married a farmer's daughter and took over the farm fruit stand, specializing in applesauce, canned or fresh-on-the-plate.

Let's suppose that George, being a financially-minded person, thought it proper to incorporate his business. He set it up on the basis of 10 shares of common stock, distributed among himself, his wife, and her family.

And let's suppose, furthermore that all this happened at the very end of 1939; and 1940 saw George Spelvin, Inc., launched upon its first year of corporate business.

In the spring of 1941 it was time for George to publish a "Profit and Loss" statement for the year 1940. Remember, we're talking in parables and holding the starting point to \$100. On that basis, the 1940 "Profit and Loss" statement of George Spelvin, Inc. looked like this:

Income from sales	\$100.00
Materials and manufacturing costs	\$50.00
Selling and administrative costs	10.00
Other expenses	10.00
Depreciation	5.00
	<hr/> 75.00
Profit before Federal taxes	25.00
Federal taxes	5.00
	<hr/> 20.00
Net Profit	

If George had made a formal report to his shareholders, he would have said that the earnings of his company "represented a profit of \$2.00 per share on the ten shares of the corporation presently outstanding."

Now, to explain George's "Profit and Loss" statement (note that even this simple statement needs explaining) a few words are necessary—

Materials and manufacturing costs include the cost of apples and cans, wages for paring and canning, etc.

Selling and administrative costs represent what it cost to sell the goods and run the business (including George's salary).

"Other expenses" include such items as sharpening knives, insurance, putting up a sign, buying sticky flypaper, etc.

The depreciation item is more complicated. George's stand and equipment were to wear out some day. Therefore, according to law and accountancy practice, George was entitled to take tax-free and set aside, out of his company's yearly

income, money for replacement of things that were worn out.

Now—there you have, in substance, the "Profit and Loss" statement of any corporation in the United States.

The only difference between this statement and that of the large corporation is that the latter may report "other income" in addition to that from sales of product, and expenses (including state and local taxes) of greater detail and variety. Add your own ciphers to the sample figures given above, and you will get the general import of the "Profit and Loss" statement of a corporation of any size you choose to conceive.

1941 Business

Business looked good in the spring of 1941—so George paid out only \$5.00 of his \$20.00 1940 profits in dividends to his stockholders, and re-invested the other \$15.00 in the business. He bought more canning equipment and added another display stand. His judgment proved good. He increased his sales, during 1941, 50% over those of 1940.

In the spring of 1942, when, according to rules and regulations, he had to get out his "Profit and Loss" statement for the preceding year, he sharpened his pencil, and this is what he got:

Income from sales	\$150.00
Materials and manufacturing costs	\$75.00
Selling and administrative costs	12.00
Other expenses	11.00
Depreciation	5.75
Additions to "plant and equipment"	15.00
	<hr/> 118.75
Profit before Federal taxes	\$31.25
Federal taxes	16.00
	<hr/> 15.25
Net Profit	

Note the increase in rate of taxes over 1940! Well—that was all right with George. We had a national defense program going on. Somebody had to pay for it.

But at that point along came a Certified Public Accountant, the Securities and Exchange Commission, and the United States Treasury—and they told George that his figuring was wrong.

"Look here," they said to George, "you marked off as an expense the \$15.00 you spent for additions to plant and equipment. You can't do that. That isn't an expense—that's a capital investment."

The theory apparently is this—

George had \$15.00 in profits from his business in his pocket, and he wondered what he should do with it. He thought perhaps he might take a trip to Europe; or maybe he would like to buy a yacht. But thinking it over, he decided to put it back into his business. Therefore it was not an expense. (Of course, over the years, George could figure depreciation on that \$15.00 worth of "plant and equipment.")

So, when they got through with him,

George's "Profit and Loss" statement for his 1941 operations read like this:

Income from sales	\$150.00
Materials and manufacturing costs	\$75.00
Selling and administrative costs	13.00
Other expenses	11.00
Depreciation	5.75
Profit before Federal taxes	\$46.25
Federal taxes	24.00
Net Profit	\$22.25

George blinked his eyes. The Treasury Department, the Securities and Exchange Commission, and the Certified Public Accountant, showed him that he had made a net profit of \$22.25—whereas all he had left in his pocket was \$15.25 (see previous statement as figured by George).

And they made him pay a tax of \$24.00; whereas all he thought he would have to pay was \$16.00.

Well—George didn't want to touch the money he was putting away for depreciation, no matter how badly his stockholders wanted dividends. He wanted to hang onto that money to keep his stand in good shape. So he took \$8.00 out of the \$15.25 he actually had left out of 1941 operations (after setting aside the \$5.75 for depreciation) to pay the additional taxes he hadn't expected, and that left \$7.25. As in the year previous, he paid out \$5.00 in dividends; and he had \$2.25 left over.

1942 Business

Meanwhile big things had been happening in the neighborhood. The Government had built an arsenal nearby—and an important Government official had told George that he must expand his operations to ten times their 1941 capacity, in order to supply applesauce to the arsenal cafeteria!

George was inclined to hesitate. He explained that all the cash he had was \$2.25, squeezed out of his 1941 business, and \$10.75 that he'd set aside out of 1940 and 1941 business to take care of depreciation. He said he didn't see how he could finance a big plant expansion on that.

But the Government man said, "This is not a matter of money—this is a matter of military necessity. Your patriotism is at stake. The cause of victory demands that you produce in 1942 ten times the applesauce you produced in 1941. And always remember, Uncle Sam will stand back of you!"

"O. K.," said George, "but where do I get the money?"

"Borrow it from the Government!" said the Government man. "Pay it back at the rate of 20% a year!"

So George borrowed \$400 from Uncle Sam. The war workers went for George's applesauce in a big way. The head dietitian at the arsenal said it gave the men just what they needed in vitamins. The production manager told George the arsenal never could have gotten out all that work if it hadn't been for that applesauce. In January of '43 a general and an admiral came from Washington and gave him the Army-Navy "E" Award.

But in February of 1943 he had to start figuring out his "Profit and Loss" statement for the year 1942.

Of course the \$400 he had borrowed from the Government for additions to "plant and equipment" couldn't figure in this statement as an expense. That was a "capital investment." He could, however, include as expense the interest he paid on that borrowed money, and he could step up his depreciation allowance. So he sharpened his pencil, and bearing in mind the new wartime "excess profits" tax rates, he came out with a 1942 "Profit and Loss" statement like this:

Income from sales	\$1,500.00
Materials and manufacturing costs	\$750.00
Selling and administrative costs	120.00
Other expenses	110.00
Depreciation	45.75
Interest on \$400 borrowed money	20.00
Profit before Federal taxes	\$454.25
Federal taxes	330.00
Net Profit	\$124.25

But how did George *actually* come out?

What didn't show up in the statement was that early in 1943—before his 1942 "Profit and Loss" statement was published—he had had to make an \$80 payment (20%) on his loan from the Government. He now owned one-fifth of his added "plant and equipment"—but to show for his year's work he had left (besides the \$45.75 set aside for depreciation) only \$44.25 in cash. Being a conservative soul, he again paid out only \$5.00 in dividends to his stockholders. That left \$39.25.

Meanwhile his "Profit and Loss" statement showed that he had "made" a 1942 profit of \$124.25!

Nevertheless, now understanding, as he thought, the regulations, George was about to publish the above "Profit and Loss" statement when the Securities and Exchange Commission stepped in and remarked that there were some new rules.

Postwar Tax Refund

According to law, George was due to get back from the Government, at some time after the war, some 10% of the Federal Excess Profits taxes he had paid. Seeing as how he was going to get them back, the Securities and Exchange Commission said, he might as well consider them already returned; in fact, a part of his present profit. As Koko says in the Mikado, "Your Majesty says, 'Kill a gentleman,' and a gentleman is told off to be killed. Consequently, that gentleman is as good as dead—practically, he is dead—and if he is dead, why not say so?"

Under Securities and Exchange Commission regulations, therefore, George had to deduct the postwar tax refund from the tax total shown in his "Profit and Loss" statement. This, of course, reduced his net tax bill by that amount; and increased his reported profit by that amount. So his statement for 1942, as George finally had to publish it, looked like this:

Income from sales	\$1,500.00
Materials and manufacturing costs	\$750.00
Selling and administrative costs	120.00
Other expenses	110.00
Depreciation	45.75
Interest on \$400 borrowed money	20.00
Profit before Federal taxes	\$454.25
Federal taxes	330.00
Minus postwar refund	30.00
Net profit	\$154.25

Of course, there was no change whatever in the basic facts. The facts still remained that George came out of the year (after setting aside \$45.75 for depreciation, and paying \$80 on his loan and \$5.00 in dividends) owing \$320 on his new plant and equipment, and with only \$39.25 in cash left in his pocket.

But his published financial statement showed that he had made, in 1942, a profit of \$154.25, which, the newspaper financial editors noted in their columns, was a net profit of \$15.42 per share on the 10 shares of common stock of George Spelvin, Inc., as compared to \$2.22 in 1941.

Whereupon a Senator made a speech on war profiteers, using George Spelvin as Exhibit "A." "Patriotism," said the Senator, "is beaten to the dust under the feet of greedy monsters who think of nothing but profits. Their aim is to make money out of human misery. Look at this bloated plutocrat, making almost eight times as much money in one year of war as he did in the previous year of peace!"

Renegotiation

So Congress passed the Renegotiation Law, empowering the Government to take away from "war contractors" such war profits as the Government might consider excessive.

George Spelvin, in the late summer of 1943, found himself called before a Price Adjustment Board. They compared his reported net profits before the war with his reported net profits in 1942. They told him he had charged the arsenal too much for his applesauce. They said his 1942 applesauce bill to Uncle Sam would have to be reduced. They intimated that if George wanted to continue to sell applesauce to the arsenal during 1943, he had better "be reasonable and go along like a nice boy."

The Price Adjustment Board thereupon announced that George Spelvin, thinking the matter over, had *voluntarily* reduced the price of the applesauce he had sold to the arsenal in 1942 by a total of \$200. The Government accountants thereupon revised his 1942 "Profit and Loss" statement so that "after renegotiation" it read as follows:

Income from sales	\$1,300.00
Materials and manufacturing costs	\$750.00
Selling and administrative costs	120.00
Other expenses	110.00
Depreciation	45.75
Interest	20.00
Profit before Federal taxes	\$254.25
Federal taxes	205.00
Minus postwar refund	17.50
Net profit	\$66.75

(Continued on page 52)

The S.E.C. Steps Out of Bounds

THE Securities Exchange Commission has overstepped its functions and has given the public a dangerously misleading impression in declaring that all industry has plenty of working capital to convert to peacetime operations without financial aid, it was charged recently by Robert Gaylord, President of the Ingersoll Milling Machine Co., of Rockford, Ill.

"In the first place," said Mr. Gaylord, "the complete statistics necessary to make such a statement are not available. In the second place, the SEC interpretation of such figures as it has assembled is either unintelligent or done for some purpose not clear. *If an industrial corporation, trying to sell stock, used the same methods of interpreting its financial position, the Commission itself would charge it with trying to fleece the public.*

"It is a tragedy that the men who are fighting, and their families at home, get the idea that industry has plenty of money to reconvert to peacetime production and also to undertake considerable expansion and thus have jobs available when the men in the armed services come home.

"Business is going to need cash, and lots of it, when the war ends. We will have to put goods on the shelves of corner grocery and dry goods stores, and in addition we will have overhanging tax liabilities and many other risks.

"Working capital is what a manufacturer has on hand to meet his payrolls, to buy raw materials, to keep his plant in repair, and to meet the hundreds of other day to day expenses. Actually, it is sound current assets less all current liabilities.

"Included in the SEC estimates of working capital is the amount of cash the manufacturer is obliged to set aside to meet tax liabilities and the amount of cash he has received from heavy borrowings from the Government on V and VT loans (all of which must be paid back).

"Taking the figures the SEC used, you will find that the companies involved did not have quite enough

Government bonds and cash to pay their taxes, their notes, their accounts payable, and to balance off advance payments made them. All these must be paid for at the rate of 100 cents on the dollar. The working capital that the SEC statement makes so much of must come from inventories and receivables. Anyone knows that these are not worth 100 cents on the dollar. Just how much they are worth is a question. Furthermore, they cannot be used in reconversion, and to provide jobs, unless they can be turned into cash promptly."

Mr. Gaylord said that many businessmen are wondering why the SEC goes so far out of its own sphere to make predictions of this kind. "Since the law does not allow the Commission to pass on the merits of any security registered with it, why then should it undertake to pass judgment on the financial capacity of all industry?" he asked.

"What is the purpose of it? This government bureau could much better spend its time in studying ways to encourage the flow of new capital into worthwhile industries and to simplify its procedures so that they will no longer hinder the formation of new capital. If we are to have more production and more jobs when the war is over, we will need more capital.

"Such interpretation of statistics as the SEC has indulged in can only be a further hindrance to this necessary investment in new enterprises that must be made if we are to have the kind of postwar world we all want.

"Another point," Mr. Gaylord said, "as presented by the SEC is the fact that in the original study released on June 9th it stated that industry's working capital has risen 70% over 1939. Yet when it issued detailed figures in a sample study on June 18th the increase in working capital over 1939 figures was 46%. Does the SEC consider 70% round figures for 46%? They don't permit such arithmetic when industry files its figures with them. The SEC promises to issue statements quarterly; let's hope they will be

more accurate.

"The original story also indicated that the working capital ratio (which is the relationship between current assets and current liabilities) had remained unchanged at 1.8 to 1.0 for five consecutive years. It is incredible that this relationship could have been so steady during the tremendous upheaval of the war period. As a matter of fact, underlying sample studies released by the SEC show that this ratio is down. This is vitally important because if this ratio is down by so little as two-tenths of a point, the dollar figures will have to be adjusted by about \$10 billion.

"The SEC sample study released on June 18th showed a decline of more than a full point in this ratio—not merely two-tenths of a point—for the five-year period. The figure fell from 3.1 to 2.0 from 1939 to 1943.

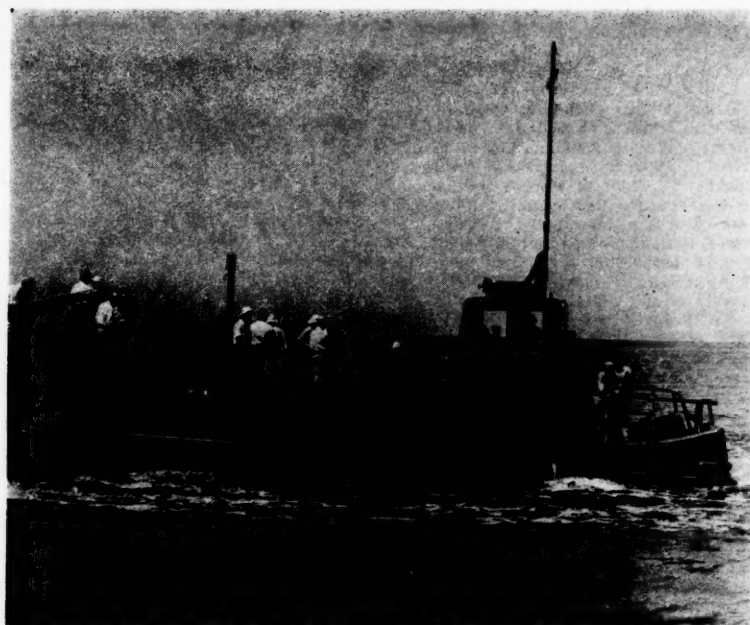
"These figures alone, are enough to show that the SEC figures are unreliable and that their interpretation is misleading, to say the least."

New York-St. Louis Route

Eastern Air Lines on July 1 resumed direct service between New York and St. Louis, touching Philadelphia, Baltimore, Charleston, Lexington, Louisville and Evansville enroute. Theodore R. McKeldin, Mayor of Baltimore, greeted the plane when it stopped at Baltimore and together with Chairman Robert O. Bonnell of the local aviation commission, dispatched letters to the Missouri city. In his letter to Mayor A. P. Kaufman, of St. Louis, Mayor McKeldin viewed the new route as "the forerunner of a much closer relationship between our two cities." W. L. Morrisette, Jr., Eastern Air Lines city manager at Baltimore, participated in the ceremony.

Ask Houston Air Extension

American Airlines, Inc., has filed an application with the Civil Aeronautics Board in Washington, D. C., requesting that its present certificate of public convenience and necessity for Route 30 from Chicago to Fort Worth-Dallas, Texas, be amended to extend the route to Houston, Texas. This application, if granted will give Houston direct, one-carrier service through Fort Worth-Dallas to Chicago and to all cities on American's southern transcontinental route from New York to Los Angeles, and will provide additional service to Mexico City and Monterrey. Direct service will also be available to such important cities as Boston, Buffalo, Cleveland and Cincinnati.



Maud, the "Sea Mule."

The Sea Mule

THE Ingalls Sea Mule, which may revolutionize methods of handling vessels in harbor and on inland waterways, already is receiving world-wide attention, say her builders. The most powerful marine tug of her size ever built has been inspected at the Pascagoula, Miss., yard of the Ingalls Shipbuilding Corporation by representatives of the British Admiralty, Russian and Chinese Governments, as well as officers and officials of the United States Army, Navy and Maritime Commission.

"We were well pleased with the way in which the representatives of the various governments received the Sea Mule," R. I. Ingalls, Sr., chairman of the Ingalls industries, pointed out after the recent trial run. "They are considering the new workboat for war duties as well as for use in the post-war world."

The Maud, as she was christened by little Barbara Ingalls, daughter of R. I. Ingalls, Jr., president of the Ingalls Iron Works Company, at Birmingham, where the workboat was built, lived up to all expectations on her trial run and during subsequent demonstrations.

Pushing a barge, the Maud went through all her paces without a

hitch, demonstrating her maneuverability, speed, ease of operation and power. She turned within three lengths while pushing the barge, reversed her course and picked up speed immediately. The Sea Mule eased into the dock after the two-hour trial run with only a few feet to spare, showing how easily she can be handled in crowded harbors or river ports. Without a tow, she turned in her own length.

The new Sea Mule was built by Ingalls in collaboration with Chrysler Corporation which has constructed thousands of smaller, less powerful workboats of similar design for use of the United States Army in combat zones all over the world. Chrysler furnished the engines, four of them in a twin-engine arrangement, for the powerful workboat. The Sea Mule, only 40 feet long, 15 feet wide, with a draft of 6 feet, boasts a total of 572 horsepower, with each of the two propellers (60 inches in diameter with a 48-inch pitch) receiving 286 horsepower from Chrysler Royal Twin Marine Engines.

Of heavy all-welded steel plate construction, the Sea Mule was built in four sections, each weighing 10 short tons or less, which may be as-

sembled or "knocked down" in only a few hours to facilitate shipment on railroad flatcars or gondolas, on highway truck-trailers or on cargo ships. The workboat may be bolted together if further shipment is planned, so that she may be easily "knocked down." For permanent use in a harbor or on a river or lake, the workboat may be welded together. Both methods have proven entirely satisfactory.

Already nicknamed the "harbor jeep," the Sea Mule is expected to replace the present-day tugs in harbors, cost being an important factor. The new workboat also can be used for towing or pushing barges on inland waterways. For long hauls, bunks and other facilities could be installed so that the crew could remain aboard at all times.

Maintenance of the new-type tug will amount to a fraction of that for a conventional tug. A crew of two, instead of five or six, can operate the Sea Mule without trouble under any circumstances, and one man is capable of handling her in "light traffic."

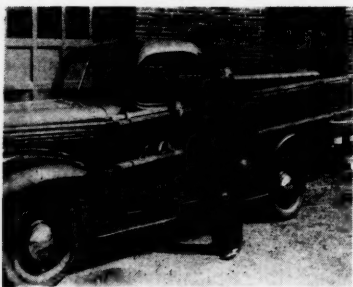
The first Ingalls Sea Mule is powered with gasoline engines. Either gasoline or Diesel engines may be used, the Diesels being cheaper to operate, but less flexible. There are two gasoline tanks holding 800 gallons each, enough for 50 hours' operation.

A major feature of the Sea Mule is the automatic hydraulic steering and engine control. Her conventional steering wheel does not connect directly with the rudders, but exerts impulses which set the hydraulic system in motion; there-

(Continued on page 62)



C. & P. Worker Gets Award for Courage



Frederick R. Hoffman

Industry has its men and women who are ever ready to risk their lives that others may live, or that the public may have without interruption those services so essential to every-day welfare. One of those who courageously risked his own life that another might live is Frederick R. Hoffman, installer-repairman of the Chesapeake and Potomac Telephone Co., Richmond, Va. Others are the sixteen men and women of the Jefferson central office of the Southwestern Telephone Co. who gallantly stood by their posts in the face of extreme danger.

Mr. Hoffman, without regard for personal safety, removed an electrical shock victim from a high tension power line in Richmond and calmly administered first aid until the arrival of a physician who said that Hoffman's presence of mind had saved the man's life.

When two violent explosions, followed by fire, threatened to destroy the central telephone office in St. Louis, the forces on duty remained at their positions, maintaining uninterrupted service.

The National Theodore N. Vail Award for heroism has been presented to Mr. Hoffman and a special bronze plaque has been awarded the St. Louis group. They are: Howard E. Compton, Madalon R. Herren, Florence C. Leitner, Gertrude A. Meyers, Ruth A. Mischke, Aurelia M. Munier, Helen M. Nicholas, Doris V. Redfield, Evelyn M. Reesor, Constance M. Schack, Fordney B. Smith, Antoinette E. Stoll, Maxine J. Warfel, Susan M. Warner, Ruth M. Welz and Dorothy V. Young.

Veteran Forester Retires

One of the first technically-educated foresters in the United States, Captain I. F. Eldredge retired from the Forest Service, U. S. Department of Agriculture, at New Orleans, La., on Friday, June 30. After almost 40 years of forestry experience from coast to coast, he leaves the staff of the Southern Forest Experiment Station which he has served as director of the forest survey of the Lower South since 1932.

Eldredge's first assignment after completing his schooling at Biltmore Forest School, North Carolina, in 1905, was on the Sierra National Forest in California. From the high Sierra he was transferred in 1909 to the pine forests of Florida, serving for 8 years as supervisor of the newly created Chocatawchatchee and Ocala National Forests. During this period, he developed and put into practice methods of turpentine now generally used

throughout the naval stores belt.

At the commencement of World War I, Eldredge entered the first officer's training camp at Ft. McPherson, and was commissioned a Captain of Engineers. He was assigned as a company commander in the 10th (Forestry) Engineers and served for 18 months in the A.E.F. in France. After the War, he returned to the Forest Service as Chief of Forest Management in the Eastern Region and a few years later was transferred to the staff of the Chief Forester, Washington, D. C., as a Forest Inspector of Management and Timber Sales work on all of the national forests of the United States.

In 1926, Eldredge resigned from the Forest Service to accept employment as manager of Suwanee Forest for the Superior Pine Products Co., an industrially-owned and operated private forest property of 200,000 acres in southeast Georgia. Here he stayed for 6 years, engaged in the production of naval stores, lumber, and other wood products.

When the Federal forest survey of the South's timber resources was launched in 1932, Eldredge accepted the regional directorship of that organization, on the staff of the Southern Forest Experiment Station. During the last few years he has also directed the Station's forest economics studies, and more recently has headed up the lumber industry survey in the Lower South for the War Production Board. He is well known as an authority on the South's timber resources and is the author of numerous publications.

Eldredge has been active in the Society of American Foresters, which organization recently paid him the signal honor of elevating him to the rank of "Fellow." After his retirement, "Cap," as he is affectionately known to his many friends throughout the country, will live in New Orleans, where he can continue to maintain his contacts with foresters and forestry activity in the South.

Industry Growth Rapid in South, Says Dolan

Southern industry is growing rapidly under the stress of war and the acceleration of scientific research, George W. Dolan, president of The Mathieson Alkali Works, stated recently in accepting the Army-Navy "E" award on behalf of the employees and management of the corporation's Saltville, Va., plant.

"Southern industry is awake to its possibilities as never before," Mr. Dolan said, "and the immense progress now being made will bring increased opportunity for all the people. The Mathieson Alkali Works has backed its faith in the South with action," he continued, stating that most of the corporation's expansion has been in the southern states, "because we recognize their growing importance in the national economy."

U. S. Rubber Expands in South

To meet increased war production demands, United States Rubber Company has established a new manufacturing facility at Scottsville, Va., and doubled the size of its new plant at Hogansville, Ga. The Scottsville operation will include the production of rayon cord, while the Georgia plant, built last year, will permit expanded production of light weight asbestos yarn needed for fire-fighting suits and other important war items.

Texan Heads Standard (N. J.)

Eugene Holman, a vice president of the Standard Oil Company (N. J.) was elected president of that Company recently to succeed Ralph W. Gallagher who was made Chairman of the Board. Elections took place at the organization meeting of the Board of Directors which regularly follows the annual meeting of stockholders.

Mr. Holman was born in San Angelo, Texas in 1895 and graduated from Hardin-Simmons University in 1916, taking his Masters Degree in geology at the University of Texas in 1917. His first job



Eugene Holman

after World War I, in which he served as a Corporal in the Army Signal Corps was with the U. S. Geological Survey. In 1921, he went to Humble Oil & Refining Company at Houston, Texas, where he became Chief Geologist in 1926. Two years later, he joined the production department of Standard Oil Company (N. J.) in New York, where his work became centered on the problems of oil production in foreign countries—particularly in South America. By 1932 he was Vice President in charge of production of Pan American Foreign, and President of Lago-Petroleum Corporation. In June, 1940, at the age of 45, he was elected a Director of Standard Oil Company (N. J.), in 1942 he became a Vice President, and later, a member of the Executive Committee.

Mr. Holman married Edith Carver Reid in 1923. They have two children and live at 2 East 67th Street, New York.

Cities Out of Date?

Cities are becoming obsolescent, opine the editors of *Pathfinder*, Washington, D. C. news weekly. After tracing the "whys" of the development and growth of cities, *Pathfinder* comes to the conclusion there is no further good reason for cities to grow; rather, it foresees wider rural distribution of future populations.

Electric power is seen as the major factor bringing about this change. Unlike steam, electric power can be transported for hundreds of miles. A manufacturing business nowadays can be conducted with a quarter-horsepower electric motor along any highway where a truck can travel. For this reason, it is argued, cities will grow at a lessening rate while population will increase in the smaller towns, with more people living along the highways.

So
E

South
Alabama
Manufact
fifty-ton
ANNIS
Co., has
Manufact
BIRM
Plant Co
public S
vide ad
mingham
BIRM
ing Co.,
house; \$
MONT
Lumber
for Capl
MONT
Quick F
721 plan

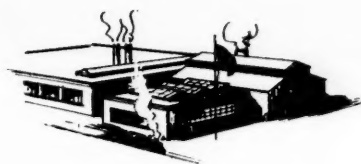
JACK
Stevens
\$15,000
JACK
purchase
East J
warehou
ing ship
cluded;
TAMP
Muscatin
Knight
tor.

AMER
Americu
for freez
Co.
OUTH
ed prior
plant by
000.
GRIFF
tle Co.,
bottle pl
PERR
Co., MIL
for comm
toes for

CORBI
Chicago,
lish plan
LOUIS
Plant Co
Pont de
to provi
000,000.
PADUC
Inc., leas

ABBEY
Utilities
30 tons
BATON
Chemical
work on
LAKE
Thompso
\$30,000 fo
Southern
NEW
Benson,
Orleans,
gram at
Vultee A
SHREY
completed
plant; eq
factures
for oil re
WESTY
low bidd

Southern Industrial Expansion in June



ALABAMA

Southern Railway let contract to Bessemer, Alabama plant of Pullman Standard Car Manufacturing Co., for repair parts for 1,487 fifty-ton all-steel low-sided gondola cars.

ANNISTON—factory—Daniel Construction Co., has contract for factory for Anniston Manufacturing Co.

BIRMINGHAM—equipment—Defense Plant Corp., increased its contract with Republic Steel Corp., Cleveland, Ohio, to provide additional equipment at plant in Birmingham; \$50,000.

BIRMINGHAM—warehouse—Brown Hauling Co., has plans for construction of warehouse; \$25,000.

MONTGOMERY—fertilizer plant—Bear Lumber Co., has contract for fertilizer plant for Capital Fertilizer Co.; \$50,000.

MONTGOMERY—plant—Montgomery Quick Freezing Co., plans erection of \$24,721 plant.

FLORIDA

JACKSONVILLE—building—Merrill-Stevens Dry Dock & Repair Co., constructing \$15,000 fireproof warehouse.

JACKSONVILLE—terminal—W. R. Levett, purchased Commodore Point Terminal in East Jacksonville, four large waterfront warehouses with 30 feet of water for docking ship, and other buildings are also included; plans development.

TAMPA—grain elevator—G. A. Kent of Muscatine, Iowa, acquired site of Hendry-Knight channel for erection of grain elevator.

GEORGIA

AMERICUS—freezer plant—D. M. Stell, Americus, low bidder at \$24,000 for building for freezer locker plant for Sumter Livestock Co.

CUTHBERT—freezer plant—WPB granted priorities for erection of freezer locker plant by Randolph Freezer Locker Co.; \$37,000.

GRIFFIN—bottle plant—Knox Glass Bottle Co., Jackson, Miss., will construct glass bottle plant.

PERRY—process plant—Cleaver-Brooks Co., Milwaukee, Wis., will establish plant for commercial dehydration of sweet potatoes for cattle feed.

KENTUCKY

CORBIN—plant—S. J. Campbell Co., of Chicago, Ill., and Madisonville, Ky., to establish plant at Corbin.

LOUISVILLE—plant facilities—Defense Plant Corp., increased contract with E. I. du Pont de Nemours & Co., Wilmington, Del., to provide additional plant facilities; \$3,000,000.

PADUCAH—potteries—Hawaii Potteries, Inc., leased building for pottery.

LOUISIANA

ABBEVILLE—ice plant—Louisiana Public Utilities erect ice plant with daily capacity of 30 tons to be located at shrimp and fish dock.

BATON ROUGE—plant—Consolidated Chemical Industries, Inc., will soon start work on \$500,000 addition.

LAKE CHARLES—addition—Barge-Thompson Co., Atlanta, Ga., has contract at \$30,000 for addition to telephone building for Southern Bell Telephone & Telegraph Co.

NEW ORLEANS—expansion—Herbert A. Benson, Archt., Carondelet Building, New Orleans, preparing plans for expansion program at New Orleans division of Consolidated Vultee Aircraft Corp.

SHREVEPORT—plant—J. B. Beaird Co., completed plans for erection of \$1,000,000 plant; equipment purchased; company manufactures steel castings and fabricated steel for oil refinery construction.

WESTVEGO—addition—Lionel F. Favret, low bidder at \$23,991 for construction of ad-

dition to existing still house of Publicker Commercial Alcohol Co., of Louisiana.

MARYLAND

BALTIMORE—equipment—Defense Plant Corp., closed contract with Mutual Chemical Co., of America to provide equipment; \$85,000.

BALTIMORE—facilities—Defense Plant Corp., increased contract with Maryland Sanitary Manufacturing Co., for increased facilities; cost \$50,000.

BALTIMORE COUNTY—crate shop—Eastern Rolling Mill Co., Baltimore, let contract to Phillip Engineering Co., Inc., Baltimore, for crate shop and lumber storage; cost \$10,000.

FAIRFIELD—addition—Cummins Construction Corp., Baltimore, has contract, work started on addition to electrical building, for Bethlehem-Fairfield Shipyard, Inc., which also will erect \$10,000 temporary storage building; owner builds.

MOUNT AIRY—frozen food plant—R. Francis Sappington, interested in erection of frozen food locker plant.

TOWSON—laboratory—Elwood T. Wadsworth, has contract for addition to laboratory for W. A. Taylor & Co., cost \$8,500.

MISSISSIPPI

GREENVILLE—grain elevator—Roy Joyce, and Associates, plan 100,000 bushel grain elevator, \$40,000.

MISSOURI

KANSAS CITY—addition—Patti Construction Co., has contract for addition to power plant of Chevrolet-Kansas City Division of General Motors Corp.; cost \$50,000.

KANSAS CITY—building—Lonsdale Brothers, has contract for 2-story brick and concrete addition to broom factory of Kansas City Association for the Blind.

MONTICELLO—extension—REA allotted \$100,000 to Lewis County Rural Electrification Cooperative Association for extensions to serve farms.

ST. LOUIS—dairy—Pevely Dairy Co., alter and repair dairy, \$30,000.

ST. LOUIS—expansion—Slack Furniture Co., acquired tract fronting on Union Blvd., for post-war expansion.

ST. LOUIS—freezer building—A. H. Haessler Building & Contracting Co., has contract for freezer building, for St. Louis Independent Packing Co.

ST. LOUIS—plant facilities—Defense Plant Corp., executed contract with National Carbon Co., New York, to provide plant facilities at cost of \$1,000,000.

ST. LOUIS—terminal—H. A. Henske has contract, truck terminal, for Dohrn Transfer Co.; cost \$22,000.

NORTH CAROLINA

CHARLOTTE—addition—V. P. Loftis, has contract for addition to plant of Swift & Co.; cost \$70,000.

CHARLOTTE—addition—Southern Friction Materials Co., Pinoka, N. C., let contract to Southeastern Construction Co. for addition to present plant, work to begin within 30 days.

HIGH POINT—addition—R. K. Stewart & Son, S. Main St., has contract at \$10,000 for addition to hosiery mill for Thomas Mills, Inc.

ROCKY MOUNT—locked plant—D. J. Rose & Son, Rocky Mount, has contract for 500 freezer locker plant for Z. B. Bullock.

WINSTON-SALEM—plant addition—Fowler-Jones Construction Co., Winston-Salem, low bidder at \$341,500 for addition to plant for National Carbon Co.

SOUTH CAROLINA

CLEMSON—equipment—Defense Plant Corp., executed contract with Excelsior Mills to provide for equipment, \$700,000.

MARION—equipment—Defense Plant Corp.

executed contract with Synthetic Fabrics, Inc. to provide equipment, \$220,000.

MONCK'S CORNER—Office and Warehouse—South Carolina Public Service Authority, Columbia, received low bid at \$94,100 from General Construction Co., Columbia, for office and warehouse.

TENNESSEE

CHATTANOOGA—woodwork plant—R. V. Hubbard, formerly of Anniston, Ala., plans woodworking plant; have building; machinery purchased.

MURFREESBORO—extension—REA allotted \$150,000 to Middle Tennessee Electric Corp., for extension of lines.

NASHVILLE—radio station—J. B. Fuqua, of Radio Station WGAC, Augusta, Ga., is president of newly formed Tennessee Broadcasters, to erect a \$60,000 studio plant.

TEXAS

BROWNWOOD—factory—Sidran Sports Wear, Wharton, will erect sports wear factory on six acre site west Brownwood; initial investment, \$50,000.

CORPUS CHRISTI—equipment—Defense Plant Corp., increased its contract with Nueces Transportation Co., to provide additional transportation equipment for use in the Corpus Christi area at cost of \$100,000; overall commitment of \$360,000.

DALLAS—warehouse—Farmers & Merchants Compress and Warehouse Co., will erect \$14,500 warehouse.

EL PASO—bonds—El Paso Natural Gas Co. authorized issuance of \$1,500,000 additional bonds for financing construction work in connection with company's war operations.

FORT WORTH—bag plant—Thomas E. Byrnes has contract at \$30,700 for bag manufacturing plant for Erwin Manufacturing Co.

FORT WORTH—facilities—Defense Plant Corp., increased contract with American Cyanamid & Chemical Corp., New York, to provide additional facilities at plant in Fort Worth; \$175,000.

GARLAND—addition—J. W. Bateson Co., Irwin-Keasler Bldg., Dallas, has contract at \$228,800 for additional plant facilities for Continental Motors Corp.

HOUSTON—addition—Brown Construction Co., has contract, work started, on plant addition, for Cameron Iron Works, \$50,000.

HOUSTON—buildings—J. & B. Manufacturing Co., has permit for 7 one-story buildings; cost, \$25,000.

HOUSTON—machine shop—Tex-Steam Manufacturing Co., erecting machine shop; \$14,000.

HOUSTON—railroad spurs—William A. Smith Construction Co., has contract for railroad spurs on north side of port yard and at Booth Yard; \$49,825.

MISSION—packing plant—Swedlund & Sons, Harlingen, have contract for citrus packing plant for Mission Citrus Growers Union unit of Rio Grande Valley Citrus Exchange.

PHARR—Processing plant—J. L. Bennett & Roger V. Ray, erecting processing plant; owner builds.

RUSK—plant—Construction work started on erection of blast furnace; newest design of wood carbonizing plant and modern iron ore mining and ore dressing plant; when completed it will incorporate the latest and newest methods and equipment; products will be charcoal, acetic acid, methanol and probably insulating wool, made from charcoal pigiron slag; incidentally the carbonizing plant will consist of old style horizontal retorts; engineers-architects are Chemical Construction Co. at Rockefeller Center, New York City and general contractors are F. H. McGraw Co., 51 E. 42nd St., New York City; The McCrossin Engineering Co., 120 Wall St., New York, are

(Continued on page 48)

Industrial News

Hercules Develops World's Fastest Sprinkler System

The world's fastest automatic sprinkler system plays an important role in the manufacture of rocket powder, one of the Allies' most powerful invasion weapons. It was revealed recently by Hercules Powder Company, Wilmington, Del.

Without this new "High Speed" sprinkler system, developed by C. L. Jones of Hercules safety engineering department, the production of rocket powder would have been seriously curtailed at the Badger Ordnance Works, Sunflower Ordnance Works, Radford Ordnance Works, and at two Hercules-owned plants at Kenil and Parlin, N. J., according to the company.

Fire reports show in most cases that fires, which may involve up to 20 pounds of fast-burning powder, are extinguished so fast that much of the powder is not burned. About the middle of 1942 Hercules began making plans for the manufacture of rocket powder and because of the urgent need for a sprinkler system that would provide the greatest safety in the shortest lapse of time—a system that would function automatically within a split second—company engineers began searching for a fire control system that would meet rigid safety requirements.

Jones felt that all commercially available sprinkler systems were too slow to be effective so it became necessary to develop a system which would be fast enough in action to provide protection.

From a knowledge of the powder being processed, it was known that water was an effective extinguishing medium. An experimental unit was built approximating the design of the equipment to be used on the production line. This unit then had installed over it the sprinkler system which Jones developed and called "High Speed." Many tests were carried out using quantities of powder varying from a few ounces to 20 pounds.

It was found fires under these tests were extinguished within one second and some were extinguished .2 of one second after they started—faster than the time it would take a man to react to the fire. The elapsed time in each case was carefully checked by means of an electric timer. The tests showed that the new sprinkler system was successful, and up-to-date more than 500 of them have been installed in Hercules-owned and operated plants.

"Protectioneer" Being Published

Wilbur & Williams Co., Boston, Mass., manufacturers of chemical products, have started publishing "The Wilbur & Williams Protectioneer," devoted to the solution of such industrial plant problems as stopping and preventing rust and corrosion; protection against caustics and acids; stopping bleeding stains; maintaining light reflection; eye and dustproof concrete floors; enamel damp equipment without shutdown; oil paint on new plaster.

Small Springs Handbook

Accurate Spring Manufacturing Co., 3811 W. Lake St., Chicago 24, Ill., have available, without charge, a Handbook of Technical Data on springs that will be of value to engineers and others especially interested in small springs. The booklet contains tables, formulae and diagrams and many other helpful features.

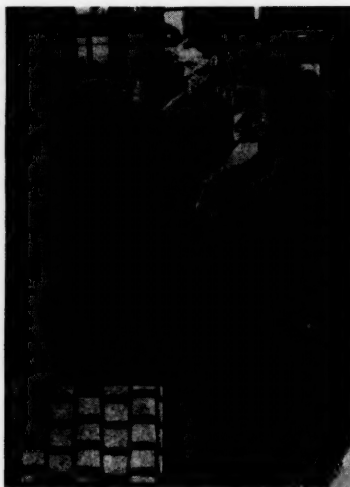
Cleanliness and Health

Cleanliness and health is a new illustrated bulletin for employers, industrial physicians and public health workers, issued by the Cleanliness Bureau of the Association of American Soap & Glycerine Producers, Inc. It describes in words and pictures some of the most recent literature, posters, plans, and methods for conserving health and promoting safety through proper attention to cleanliness procedures.

The first issue deals with industrial dermatoses, women in industry, health practices of restaurant employees, handwashing, and plant housekeeping. Some of the material described is source material for professionals; some is for general distribution to employees. Future issues will appear as new data warrant.

Klemp Steel Safety Mats

New improved steel safety mats manufactured by William F. Klemp Co., steel flooring specialists, 6641 S. Melvina Ave., Chicago 38, Ill., include a design feature which has proved a decided addition to non-skid protection.

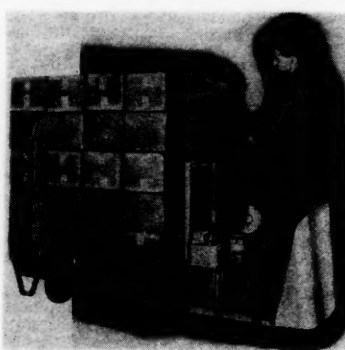


Klemp Steel Safety Mats

This is a slight crimp or center bend in one side of the strong steel mesh. These mats roll up like a rug and can be placed anywhere. They prevent slipping and falls, keep feet dry, make lifting safe, reduce fatigue and prevent accidents. Made of steel, they are non-absorbent and easily cleaned in hot water or cleaning solution. They are made any length up to 25 feet, any width to 6 feet.

New Power Lift Truck

Yard-Man, Inc., Jackson 5, Michigan, manufacturers of gasoline powered lift trucks, have introduced a new "Truck-Man" designed for moving skidded loads of one ton or under. Easier, safer operation and greater flexibility have been built into the unit, say the manufacturers.



Model D Truck

facturers, making it a more efficient truck for handling warehouse loads in tight spots and over rough places.

Other features include a patented two-speed drive; large ball thrust bearing to reduce steering effort; heavier load wheels with a 4-inch tread; gasoline tank of sufficient capacity for eight hours operation, and V-type belt brakes that set automatically when the truck is not in motion.

Armco Buys Two Companies

The American Rolling Mill Company has purchased the assets of the Ohio Corrugated Culvert Company, of Middletown, Ohio, and the Shelt Company, of Elmira, N. Y. Charles R. Hook, president of Armco announced recently. Both companies will be operated by a wholly-owned Armco subsidiary, Armco Drainage and Metal Products, Inc. The Ohio Corrugated Culvert Company, a pioneer manufacturer of metal culverts, was organized early in the 1900's. As sheet metal demonstrated its usefulness in this field, production of other drainage and allied products was initiated. It operates in Ohio and West Virginia. The Shelt Company of Elmira was organized in 1930 to manufacture and distribute drainage products in New York, Pennsylvania, and New Jersey.

Coyne to Head Sales for Mt. Vernon Car

Richard T. Coyne has been appointed manager of sales for Mt. Vernon Car Manufacturing Company, Mt. Vernon, Ill., a division of H. K. Porter Co., Inc., of Pittsburgh, Pa. It was announced recently by T. M. Evans, president. Mr. Coyne has assumed the duties of C. M. Wright, vice president, resigned.

New Wing Representatives

The L. J. Wing Manufacturing Company, New York City, manufacturers of heating, ventilating and combustion equipment, announces the appointment of the following new representatives: Glidden Engineering & Equipment Co., Dallas and Austin, Texas; E. Lloyd Widner, Knoxville, Tenn.

Template Speeds Timber Cutting With Davey Saw

A template developed by a contractor in the field, for use with the Davey pneumatic saw, makes possible the mass production of any cut that can be made with the hand saw where compressed air is available. The template may be made by the contractors and fastened to the Davey Saw or to the timbers to be cut.

"Twenty-five 10-inch creosoted pilings were cut in 1 hour and 35 minutes, cutting only about 3 inches above grade, right down in the dirt with gravel flying about, with the Davey saw," a contractor reports. "On another job, thirty-six 12-inch pilings were cut in 3 hours, 5 minutes, with the saw operating half in and half out of water. It would have taken 3 to 4 days to cut these green pilings with a two-man hand saw."

Advantages claimed for the Davey Pneumatic Saw include: (1) speed, 225 strokes per minute—cuts a 15-inch timber in 40 seconds; (2) flexibility, to make any cut the hand saw can make and some the hand saw can't make; (3) ease in use—clamps to work, no arm-jerking jolts; (4) operates above or under water; (5) durability—simple design and rugged construction.

Illustrated folder, E-163, with complete details is available on request from the Pneumatic Saw Division, Davey Compressor Co., Kent, Ohio.

Scully To Manage Synthetic Rubber Plant

W. W. Scully has been appointed manager of the synthetic rubber plant being operated at Port Neches, Texas, by The H. F. Goodrich Co. for the government. Mr. Scully, who joined Goodrich in 1929, has had wide experience in the purchasing and sales branches of the company, and had been operations manager of the Port Neches plant since last July. He succeeds W. J. Piggott, resigned.

Goodrich has engineered and constructed synthetic rubber producing plants with a rated annual capacity of 255,000 long tons, the largest assignment given any company under the government program. The company operates for the government three plants, including that at Port Neches, with a total annual rated capacity of 165,000 long tons. Mr. Scully has been active in this work since its inception.

Stabilized Traveling Platform Operates Without Swing

Cleveland Tramrail Division of The Cleveland Crane & Engineering Co., Wickliffe, Ohio, announce a new stabilized traveling platform that can be raised or lowered without swing as firmly as though held by vertical guides. It can be traveled to any point longitudinally or laterally in an area covered by the crane on which it is operated.

This stabilized platform was designed for spray painting large air cargo ships and to aid with some of the assembly operations. The floor area of the platform is divided into two sections: approximately one-third at the rear is for drums of paint and other equipment carried; the large space in front is for the painter's use.

Three master drum controllers are mounted on the railing at the rear of the painter's area, for operation of the hoist, bridge and trolley motions. Speeds may be varied with these controllers. Three sets of foot-operated controllers are also provided on the floor along the three outer sides of the painter's area. These enable the painter to move the platform to any location desired by use of controllers on the side of the platform that he is working from. They provide single slow speed motions convenient for spray painting. Thus, the painter's hands are free to hold the spray nozzle and apply the paint carefully and without hindrance while operating the platform.

Besides the usual upper limit switch for preventing the platform being hoisted beyond the upper limit, a feature provided to aid safety when lowering, is the slack cable re-

Data On Shock-Absorbing Hammers and Mallets

A bulletin entitled "A Blow without a Dent," shows and describes the Basa replaceable face hammers and the Empire soft face mallets manufactured by Greene, Tweed & Co.



Co., New York 66. Featured are the plastic faces and heads, which are now available for these hammers and mallets. The bulletin concisely outlines the particular advantages of the special material selected for the purpose, and explains why this plastic is superior to many other materials in various uses of the tools. Rawhide, copper or babbit faces can also be furnished for the Basa hammers, and plain or furnished rawhide heads for the Empire mallets.

Belcher Elected A.T. & T. Treasurer

Donald R. Belcher, assistant comptroller of the American Telephone and Telegraph Co., was elected treasurer of the company recently at the meeting of the Board of Directors. Mr. Belcher succeeds James F. Behan, who reached the company's retirement age of 65 in April. He will celebrate his 25th anniversary with the company next September. His A.T.&T. career began as a statistician in the Comptroller's department in 1919.

New A-C Vice Presidents

Allis-Chalmers Manufacturing Co., of Milwaukee, Wis., announce the election of three new vice presidents—W. A. Roberts, Wm. C. Johnson and James M. White. All have been with A-C for a number of years. Johnson and White, natives of Alabama, joined the company in the twenties.

Harnischfeger Appoints Blum

Announcement is made by Harnischfeger Corporation, Milwaukee, of the appointment of Frank M. Blum as manager of the P&H Crane Sales Division, to succeed Ben Van Horn, retired. Mr. Blum previously was assistant manager of the division since 1938, and possesses a thorough background in engineering and application of overhead materials handling equipment. He joined Harnischfeger in 1929.

New Plastic Shoe Sole

Greater lightness and additional walking comfort are promised by the Goodyear Tire & Rubber Co. with a new plastic sole for men and women's footwear. The new sole material has been named "Kavtex" and the plastic used for "Kavtex" is derived from a vinyl chloride base, enabling the salvage of scraps or "tailings" from other products made with the same plastic.

New Life Insurance Gains 6 Per Cent in May—10 Per Cent Increase for First Five Months

New life insurance for May was 6.0 per cent more than for May of last year, and for the first five months of this year the total was 10.0 per cent more than for the corresponding period of 1943, according to a recent statement by The Association of Life Insurance Presidents. For the month, Ordinary insurance showed an increase of 15.1 per cent over May of last year, Industrial insurance a decrease of 5.1 per cent and Group insurance a decrease of 11.7 per cent. The statement aggregates the new paid-for business—not including renewals or increases—of 39 United States companies having 81 per cent of the total life insurance outstanding in all United States legal reserve companies.

Rosin Shortage Predicted

Possibility of a deficit of 600,000 barrels of rosin for the crop year ending March 31, 1945, has been reported by the Chemicals Bureau of the War Production Board. Anticipated production for the crop year 1944-45 is estimated by Government representatives to be 1,650,000 barrels of rosin (gum and wood) as opposed to anticipated distribution (domestic and foreign) of 2,207,000 barrels.

New Carton Color Ink

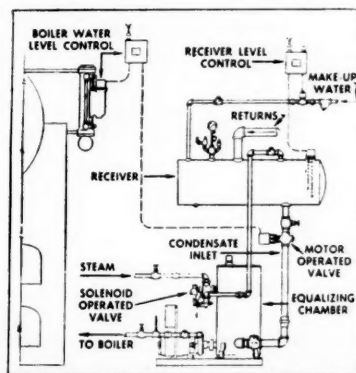
A new Sand Color (carton color) block-out ink has been developed by the Diagraph-Bradley Stencil Machine Corp., St. Louis, Mo. This block-out ink has been developed to obliterate markings on used cases and boxes so that they may be restenciled in a clear—clean—easily read marking. This new ink for cartons or boxes meets U. S. Government specifications.

The new ink can be used for obliterating any type of marking on wood or cartons. It is applied on a box or carton in the same manner used in painting. It is a heavy body solution, and is quick-drying.

Johnson Announces Self-Drain Compressed Air Separator

A self-draining compressed air separator has been developed by the Johnson Corporation, of Three Rivers, Mich. Known as the Johnson Type SA Separator, it has a complete trap mechanism built right in, which releases from the separator, automatically, all the water, oil and other moisture that has been removed from the compressed air.

Operation of the Type SA in removing water, dirt and oil from compressed air is identical with that of the standard Johnson Separators. It employs the two principles of (1) expansion and (2) change of direction, a combination which, according to the manufacturer, achieves an efficiency of more than 99%. The entering air is first allowed to expand slightly, thereby precipitating most of the entrained moisture. Then it passes through the "thousand baffles"—a labyrinth of coarse wire mesh—changing direction of flow abruptly many times, and surrendering the remaining particles of foreign matter.



Fuller Elected V. P. of Bethlehem Steel

H. H. Fuller has been elected vice president in charge of West Coast steel activities of Bethlehem Steel Company, effective July 1. Mr. Fuller succeeds W. H. Stewart who has held the office for the past twelve years. Mr. Stewart, though retiring from active duty, will continue in an advisory and consulting capacity. Mr. Fuller entered the employ of Bethlehem at the close of the First World War.

Planned Materials Handling

(Continued from page 27)

ing time, and for conserving wood, a needed material.

Out of that study came a new method:

Crating was entirely eliminated.

Units are fastened in pallets at the supplier's plant—12 to a single layer, 3 layers high, totalling 36 units, metal strapped for security.

Carloading and unloading is done by industrial fork trucks designed for that purpose; and pallets are transferred to and from freight cars on trailers hauled by industrial tractors.

Shipping and receiving checkers see at a glance—12 units per layer, 3 layers.

Pallets are handled at both ends by fork trucks. Units never leave the pallets until they reach the assembly lines.

Pallets are tiered 11 feet high, utilizing an extra 4 or 5 feet of storage space that had theretofore been useless.

Advantages of the new system are obvious. It is quicker, easier and saved 19 man-hours on each pallet of 36 units. It meant \$21.60 lopped off the delivered-to-line cost of each 36 units, through saving on material as well as labor.

This story is an actual case history. One fact in this experience stands out conspicuously. It is this: A completely mechanized system of handling materials virtually eliminates unskilled labor; and it is a demonstrable fact that unskilled labor adds nothing to a product except cost. That cost item can never be entirely done away with, in all probability; but it can be reduced.

It is a comparatively easy matter to study the materials handling problem in any plant; and such study, based on getting all the facts, almost invariably puts a spotlight unerringly on wastes of man-hours and money—wastes that can easily be eliminated.

The most important thing, however, is that the subject be faced and dealt with as a part of the larger over-all production problem. The best solution lies not in revising the flow of materials "within a plant"—nor in buying specific

pieces of equipment which seem best adapted to that local need. The study ought to begin at the plant and should proceed from there all the way back to those plants where materials originate so that the movement and processing of materials may be visualized as a complete phase of planned production.

It is then another comparatively simple task to design equipment suited to the needs of that well planned system. Indeed it may not be far fetched to predict that industrial architecture of the future will have to be aware of materials handling—will have to revise ceiling heights and plan how to make effective economical use of the "air rights" existing indoors. This emphasizes again that planned materials handling goes hand in hand with planned production and is, in fact, a vital phase of that larger problem.

Badham Plans Rock Wool Plant

Anticipating a heavy post-war demand for building insulating materials, the Badham Insulation Company of Birmingham, Ala., plans the erection of a plant to manufacture rock wool from steel mill slag, abundant in that area, it was announced recently by John Terry Badham, president of the company.

Rock or mineral wool from blast furnaces slag as an insulator was experimented with more than 75 years ago, but it was not until recent years that research led to the elimination of impurities, chiefly sulphur, and slag proved a suitable

basic material. Modern manufacturing methods have proved the feasibility of steel mill slag for making similar insulation.

It is of interest to southern industry that Badham is looking ahead to full utilization of materials "right in their own back yard." It signalizes confidence in the industrial and construction future of the South.

One of the South's large manufacturers and installers of insulating materials, the Badham company has been engaged almost entirely with government orders and has supplied many large combat ships, military posts, war plants and hospitals.

Ready Mix Concrete Price

New methods for pricing have been provided manufacturers of ready-mixed concrete, concrete products, and precast stone products which were not sold or offered for sale during March, 1942, and for which ceiling prices have not been established, the Office of Price Administration announced.

Effective during May the new pricing method established prices for these products in line with the general level for similar products, and supersedes the four pricing methods previously provided, thus simplifying both pricing and reporting procedure. Experience has shown that the previous pricing methods were not particularly appropriate for these products.

The action applies to concrete products manufactured from a mixture of Portland cement and aggregates and divides them into three separate categories: (1) ready-mixed concrete, whether mixed during transit or prior to delivery to job-site; (2) manufactured items not cast in place, including cement and concrete building blocks and brick; cement and concrete tile and tiling; sewer, culvert, and other concrete pipe; concrete drain tile; concrete posts; silos and cribbing; precast concrete floor, roof, and wall slabs; terrazzo; concrete septic tanks; laundry tray and shower stall bases; and concrete grave vaults and (3) precast stone products used in place of natural stone or to obtain an ornamental architectural effect.

Below—S. S. Fort Amsterdam, built for the Royal Netherlands Steamship Co., at the Decatur, Ala., yards of the Ingalls Shipbuilding Corporation. This type cargo vessel, 3,000 tons cargo capacity, is much in demand by foreign nations.



WEL

Bel
lon
pro
fab
Dek
and

CHI

Birm
Hous
Tulsa
New
Cleve

WELDED STEEL PRESSURE VESSELS THAT

Come from Alabama

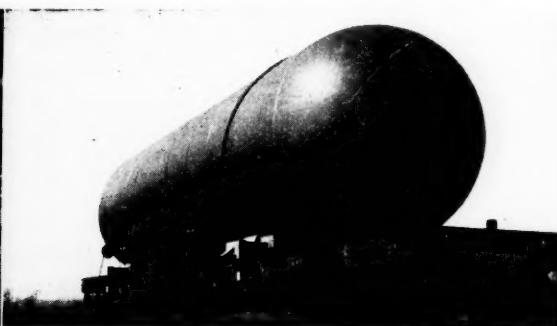
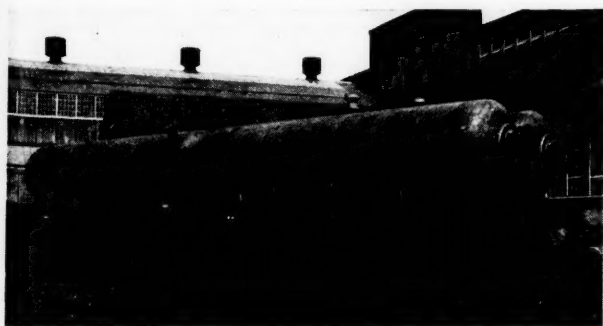
... designed and fabricated in our Birmingham plant where facilities for welding, stress-relieving and x-raying are complete in every detail.



Above: This 10-ft. 6-in. diam. by 58-ft. 9-in. fractionator tower is shown leaving our plant in Birmingham for a refinery located in Louisiana. Note the cone bottom which has a special welded connection.

Below: These four 5-ft. diam. by 20-ft. long pressure vessels are being used in the production of butyl rubber. They were fabricated at our Birmingham plant for a Defense Plant Corporation installation and are located in a southern state.

Below: Headed for an Ordnance Works in Tennessee ... this 10-ft. 5½-in. diam. "bullet" was fabricated and stress-relieved for the storage of anhydrous ammonia. Vessels up to 13 ft. 2 in. in diam. may be stress-relieved at our Birmingham plant.



CHICAGO BRIDGE & IRON COMPANY

Birmingham 11530 North Fiftieth Street
Houston 15614 Clinton Drive
Tulsa 31611 Hunt Building
New York 63313-165 Broadway Building
Cleveland 152216 Guildhall Building

Plants in BIRMINGHAM, CHICAGO



Chicago 42106 McCormick Building
San Francisco 51040 Rialto Building
Philadelphia 3...1619-1700 Walnut Street Building
Havana402 Edificio Abreu
Washington 5330 Bowen Building

and GREENVILLE, PENNSYLVANIA

FOR JULY NINETEEN FORTY-FOUR

June Industrial Expansion

(Continued from page 43)

the lessee and operators; site of plant at station on Cotton Belt Ry.

SAN ANTONIO—furniture factory—Myers-Spalti Furniture Co., Houston, plans furniture factory; fireproof with sprinkler system; applied for priorities.

SAN ANTONIO—radio station—K. A. B. C. applied for permission to increase power of station to 50,000 watt and erect 2-story rock building, transmitter and housing for operators.

TAYLOR—cold storage plant—Ricks Construction Co., Austin, has contract at \$68,577 for construction of locker and cold storage plant, for Taylor Locker and Cold Storage Co.

TEXAS CITY—office—Samuel Johnson Co., has contract at \$49,973 for office building for Southport Petroleum Company of Delaware.

VIRGINIA

CHESTERFIELD COUNTY—locker plant—Virginia Ice Machine Corp., 330 W. Cary St., Richmond, interested in location of frozen locker plant.

CHRISTIANSBURG—storage plant—Wythe Building Corp. has contract for \$50,000 frozen food storage plant for Christiansburg Southern States Cooperative Fruit Storage; capacity 500 lockers.

LOUISA—locker plant—Southern States Co-Operative, Insurance Bldg., Richmond, interested in location of \$30,000 frozen locker plant.

LYNCHBURG—remodeling—Lynchburg Foundry Co., plans \$200,000 improvements to provide a modern molding unit for mass production of small castings.

NORFOLK—bonds—Receivers of Seaboard Air Line Railway, will receive bids July 11, for \$2,760,000 of equipment trust certificates; obligations will represent not more than 75 per cent of the estimated cost of new Diesel freight cars to be purchased by the road.

ROANOKE—dehydrating plant—Roanoke Dehydrators & Packers, acquired dehydrating plant in Norwich; priorities have been obtained for machinery.

WARRENTON—locker plant—Southern States Co-Operative, Insurance Bldg., Richmond, erect \$30,000 frozen locker plant.

Railroad Purchases Greatest In Fourteen Years

Purchases of fuel, materials and supplies by Class I railroads of the United States in connection with their operation were greater in 1943 than in any year since 1927, announces J. J. Pelley, President of the Association of American Railroads.

Such purchases in 1943 totaled \$1,394,281,000, an increase of \$134,470,000 compared with 1942. In 1927 purchases of fuel, materials and supplies totaled \$1,395,928,000.

Purchases increased 10.7 per cent between 1942 and 1943. Part of this increase was due to increased prices, which averaged about 7 per cent higher in 1943 than in 1942, and the remainder was due to greater volume purchased.

Class I railroads in 1943 expended \$527,296,000 for fuel compared with \$426,335,000 in 1942. For bituminous coal only, their purchases totaled \$375,398,000 or an increase of \$62,611,000 compared with the preceding year, while anthracite purchases totaled \$3,715,000, or an increase of \$625,000 compared with 1942. Purchases of fuel oil in 1943 amounted to \$136,905,000, compared with \$99,767,000 in the preceding year. For gasoline, there was an expenditure of \$5,782,000 in the past year, while for all other fuels, including coke, wood, and fuel for illumination, expenditures amounted to \$5,496,000.

Purchases of forest products amounted to \$150,255,000 in 1943 compared with \$115,227,000 in 1942. For cross ties, including switch and bridge ties, the railroads expended \$92,871,000 in 1943, an increase of \$21,683,000 above such expenditures in 1942. Purchases of lumber, including timber as well as other forest products, amounted to \$57,384,000, or an increase of \$13,345,000 above the preceding year.

Class I railroads in 1943 purchased iron and steel products amounting to \$410,803,000, compared with \$433,089,000 in 1942, or a decrease of \$22,286,000. For locomotive and car castings, beams, couplers, frames and car roofs, the railroads spent \$49,440,000 in 1943, compared with \$61,359,000 in the preceding year. Purchases of steel rail, including new and second-hand except scrap, amounted to \$60,074,000 in 1943, compared with \$55,647,000 in the preceding year; while for track fastenings, track bolts, spikes, and other such materials used in connection with the laying of rails, the railroads expended \$43,804,000, or a decrease of \$9,545,000 below the preceding year.

For wheels, axles and tires, the railroads expended \$44,550,000, compared with \$41,501,000 in the preceding year; and for bar iron and steel, spring steel, tool steel, unfabricated rolled shapes, wire netting and chain, boiler, firebox, tank and sheet iron and steel of all kinds their expenditures amounted to \$28,868,000, compared with \$27,120,000 in the preceding year. Purchases of interlocking and signal material in 1943 amounted to \$18,152,000 and for standard and special mechanical appliances for locomotives, \$18,478,000.

Miscellaneous purchases made by the Class I railroads totaled \$305,927,000 in 1943 compared with \$285,160,000 in 1942. Coming under this heading were \$38,852,000 for glass, drugs, chemicals, including chemicals for timber treatment, and painters' supplies; \$30,468,000 for

(Continued on page 66)

Startling New Products Unlikely in Immediate Postwar Manufacturing

"The fact is that when American industry was asked to go into armament production, its speedy compliance brought about a really drastic reorganization of plant facilities. Costly machine tool equipment was uprooted and stored on vacant lots, cement assembly lines were torn up with pneumatic drills and new ones laid, and in many instances even the actual plant walls were torn down and rebuilt to accommodate the new production procedures involved in armament manufacture.

Alien Patents Available

The Alien Property Custodian has announced there are approximately 45,000 vested patents and patent applications which have been seized from enemy aliens and nationals of occupied countries. They are largely being made available by licensing on a non-exclusive, royalty-free basis for a fee of \$15 per patent, for the life of the patents. Catalogs and class lists of vested patents may be purchased from the Alien Property Custodian, Chicago 3, Ill., or are available for public inspection, along with copies of the patents, in the Custodian's Patent Administration Division Offices in Washington, D. C., New York City, Chicago, Boston and Portland, Ore. Catalogs may also be inspected in regional and field offices of the Smaller War Plants Corporation.

Alcohol from Sawmills

Prospective shortages of grain for human consumption and livestock feeding and continued dwindling of the nation's industrial alcohol reserves can be avoided by utilizing sawdust and other wood wastes available at hundreds of sawmills throughout the United States, Wilson Compton, executive officer of the National Lumber Manufacturers' Association, declares.

War Production Board

The Office of Industry Advisory Committees, War Production Board, has announced today the formation of Aluminum Smelters Industry Advisory Committee. Edwin D. Lucas, Aluminum and Magnesium Division, is the Government presiding officer. The membership is as follows:

W. J. Bulloch, W. J. Bulloch, Inc., Birmingham, Ala.; James A. Gallagher, Associated Smelting Corp., Oakland, Calif.; Robert B. Henning, Belmont Smelting & Refining Co., Brooklyn; Wm. A. McKnight, Wm. F. Jobbins, Inc., Aurora, Ill.; J. B. Neiman, General Aluminum Dept., Federated Metals Division, Aluminum Smelting & Refining Co., Detroit; J. N. Pomeroy, General Smelting Co., Philadelphia; A. Rubin, National Smelting Co., Cleveland; and George Sall, George Sall Metals Co., Philadelphia.

The first meeting of this committee was held recently.

Southern Cotton Spindles

Southern cotton spindles in April continued their wide lead over spindles of other states, turning out cotton fabrics for victory. The 17,376,888 spindles in place operated an average of 439 hours each for a total of 7,760,176,749 hours. New England spindles averaged 278 hours each, while those of other states averaged 252 hours.

June Petroleum Production

An all-time high production rate of 4,879,100 barrels daily of all petroleum liquids has been certified to the various oil producing states for June, 1944, by the Petroleum Administrator for War. This represents a net increase of 60,000 barrels daily over the rate certified for May, 1944, the previous record high. Production rates certified for the Southeastern States are increased by 61,600 barrels daily, with Texas receiving 60,000 barrels of this quantity brought about by increased refinery runs and improved transportation outlets to outside receiving areas.



U. S. MARINES ON BOUGAINVILLE use palm trees for telephone poles as they string communication lines. Two stand guard with carbine and sub-machine gun.

Telephone Lines on Bougainville

THIS is a war of communications. The farther our forces advance, the more wires, telephones and switchboards they need. And war stopped the making of telephones for civilian use.

We regret that many here at home cannot now get tele-

phone service and may not be able to get it for some time.

If you are one of those who are waiting, we'd like you to know that we will do everything in our power to minimize your delay.



BELL TELEPHONE SYSTEM

World's Largest Integrated High Octane - Rubber Operation

(Continued from page 31)

production, distribution, financial—must be made as strong as an all-out war effort will permit.”

Harvey S. Firestone, Jr., president of the company operating the adjacent synthetic rubber plant, described the Lake Charles operations as “tangible evidence of what co-operation between citizens of a community, the Government, the petroleum and rubber industries has done to make the rubber crisis a thing of the past.”

One of the factors in selection of the site, incidentally, was a channel to the sea, the initial funds for which were provided by the people of Calcasieu Parish where Lake Charles is located.

Other participants in the dedication which honored Temple W. Tutwiller, president of the Cities Service Refining Corp., were Maj. Gen. Henry C. Pratt, commanding

general of the Southern Defense Command; Rear Admiral J. T. Mathews, superintending civil engineer of the Navy at New Orleans; Governor James H. Davis, of Louisiana; Ralph K. Davies, deputy petroleum administrator; W. E. O'Brien, assistant rubber director, and Representatives J. S. Morrison and Henry E. Larcade, Louisiana congressmen.

The plant was designed and built by M. W. Kellogg Co., of New York. A total of 25,000,000 man-hours of labor was required.

The synthetic rubber factory, to which the plant delivers the butadiene started operating last year, eleven months after construction was initiated. Its rated annual capacity is 60,000 long tons. As much synthetic rubber can be made there as can be produced on Far East natural rubber plantations of 250,000 acres. (S.A.L.)

Steel Industry's Consumption of Raw Materials

In the record-breaking production year 1943, the steel industry consumed electricity enough to supply 17,178,000 families for 12 months; fuel oil sufficient to heat 1,406,000 homes for a year; coal equivalent to a year's consumption in 12,986,000 houses; natural gas for 14,470,000 residences for a year, according to estimates prepared by the American Iron and Steel Institute. They cover only part of the materials consumed last year by the steel industry, which probably uses a greater quantity of raw materials than any other industry in the world.

All told, the industry charged into its blast furnaces and steel-making furnaces 313,364,000 tons of raw materials in 1943, exclusive of ferro-alloys and alloying elements. This represented consumption of nearly five tons of raw materials for each ton of finished steel produced.

Fuels consumed by the industry, exclusive of coal, totaled 226,784,000 gallons of tar and pitch; 2,109,425,000 gallons of fuel oil; 868,172,000,000 cubic feet of natural gas and 18,380,000,000 kilowatt hours of electric power. Of its total consumption of 90,905,000 tons of coal last year, the industry used 84 per cent in the production of coke for the operation of blast furnaces. The remainder was used to produce steam, generate electricity and as a general-purpose fuel.

Blast furnaces consumed 64 per cent of the total of 313,364,000 tons of raw materials used. Principal materials going into these furnaces included 108,025,000 tons of iron ore; 56,701,000 tons of coke; 24,248,000 tons of limestone; 7,152,000 tons of cinder and scale; 3,694,000 tons of

scrap. Materials charged into the steel-making furnaces included 51,956,000 tons of pig iron; 47,106,000 tons of scrap; 7,385,000 tons of ore; 6,534,000 tons of fluxes and 563,000 tons of cinder and scale.

Signal Corps Citation For A. T. and T.

A Certificate of Appreciation “for loyal and patriotic service” has been presented the American Telephone and Telegraph Company by the Signal Corps of the Army. Accepted by A. T. & T. President Walter S. Gifford, the certificate acknowledged the company's “loyal and patriotic service rendered the Signal Corps . . . in the accomplishment of its vital mission in the national emergency.”

War Contract Termination Training Program

A new venture in business education began recently in Philadelphia with the opening of a contract settlement training program for war contractors and government representatives at the University of Pennsylvania. The government representatives and the contractors will sit in the same classrooms and be trained together.

“The purpose of this training program,” John M. Hancock, Chairman of the Joint Contract Termination Board explained, “is to speed the settlement of terminated war contracts and in that way contribute to swift reconversion by giving key representatives of the Government and industry intensive advance training in dealing with the problems of contract settlement.”

The University of Pennsylvania project is to serve as a model for a nationwide training program which will use an estimated 50 colleges and universities in various parts of the country, Mr. Hancock said.

Seawell Succeeds White on Norfolk Committee

Chairman W. J. Garris of the Hampton Roads Port Development Committee has announced the appointment of Leon T. Seawell of Norfolk to succeed Warren T. White, also of Norfolk, as a member of the Committee. Pressure of private business made it necessary for Mr. White to resign, which resignation was accepted with regret by the Committee at its last meeting.

In commenting on the appointment, Chairman Garris said: “Mr. Seawell is peculiarly well equipped for service on the committee, being actively identified with the marine life of the port area.” Mr. Seawell is a member of the well known firm of Hughes, Little and Seawell, admiralty lawyers, with offices in Norfolk.

New Cannon Engineering Representatives

Sales manager William V. Brainard, of Cannon Electric Development Co., has announced the appointment of five new engineering representatives for the company: James L. Wright, Jr., who has opened his office as Wright Engineering at 6109 North Meridian St., Indianapolis 5, Ind.; Franklin Sales Co., Central Savings Bank, Denver 2, Colo.; Bruner Corporation, 418 W. North Ave., Milwaukee 12, Wis.; Souther Sellers, 918 Union St., New Orleans 13, La.; and Mountain States Engineering Co., 215 W. Second, Salt Lake City 1, Utah.

Atlantic Coast Line Head Sees Southern Expansion

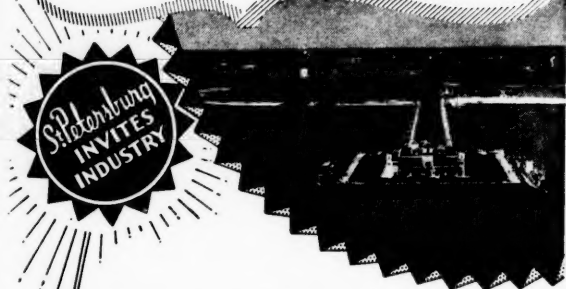
C. McD. Davis, President of the Atlantic Coast Line Railroad, sees the South becoming an even greater industrial empire in the postwar world. In a recent article appearing in the A. C. L. News, Mr. Davis said:

“The fact that the wartime industrial boom in Dixieland has come about more through expansion and conversion of existing industries than establishment of new industries demonstrates that southern industrialists and manufacturers have the same ingenuity as their northern contemporaries. The present war has greatly enhanced the South's productive facilities and skilled workers, and southern business leaders will not, I feel sure, resign themselves to a return to the old economy when postwar adjustments come.”

Renegotiation Manual Available

The Superintendent of Public Documents, Washington 25, D. C., has announced publication of a loose-leaf manual on Renegotiation Regulations issued by the War Contracts Price Administration Board. The manual initially contains approximately 275 pages, and will be supplemented from time to time as the regulations themselves are supplemented. It is available at a prepaid subscription price of \$2.00, including 12 monthly supplements.

Take a Look at.. **ST PETERSBURG**



**St. Petersburg
INVITES
INDUSTRY**

While you are engaged in post-war business planning, it will pay you to investigate the opportunities offered by St. Petersburg, Florida, the dynamic "Sunshine City." This community, second largest resort center of the South, is also interested in attracting and developing light industries. Many advantages in markets, materials, labor, and living conditions combine to make St. Petersburg particularly attractive for certain types of selected industries. For booklet, "St. Petersburg Invites Industry," write Industrial Department, Chamber of Commerce, St. Petersburg, Florida.

ST. PETERSBURG *Florida*
THE SUNSHINE CITY

Investigate - and You'll Locate in **ORLANDO**

Florida is growing and is destined to have a tremendous growth following the war. Orlando, fast growing city of Central Florida, is ideally situated in the center of the state with convenient access to Florida's markets and materials by train, plane and trunk highways. Excellent living conditions, moderate living costs. For statistical data and special information, address Greater Orlando Chamber of Commerce, Room 152, Chamber of Commerce Building, Orlando, Florida.

OPPORTUNITY CENTER OF
FLORIDA

NATURAL GAS

A fuel whose value has been proven by years of use in a most diversified line of industrial applications.

Natural gas has created the possibility of effortless comfort by the facility, and economy with which it fits into the home.

SOUTHERN NATURAL GAS COMPANY

Watts Building

Birmingham, Ala.

Profit and Loss

(Continued from page 39)

Well—look back, for a moment. We have three possible net profit figures for George Spelvin, Inc., for 1942:

Without postwar tax refund	\$ 124.25
With postwar tax refund	154.25
With postwar tax refund but after renegotiation	66.75

And the facts? To repeat once more—after paying an \$80 installment on his loan and \$5 in dividends and setting aside \$45.75 for depreciation, *George had left from 1942 operations only \$39.25 in cash.*

Well—let's see how much money George actually had to pay back to the Government as a result of renegotiation.

On his "Profit and Loss" statement after renegotiation, his 1942 tax bill was \$205.00.

But he had already paid the Government \$330.00 in 1942 taxes (see "Profit and Loss" statement before renegotiation). He had therefore made a tax over-payment of \$125.00.

This was applied against the \$200.00 which he owed the Government as a "price reduction;" so the net effect was that he had to pay Uncle Sam \$75.00. Where did he get the money?

In actual money, George had left \$39.25 from 1942 business and \$2.25 from 1941 business—plus \$56.50 he had set aside for depreciation in 1940, '41 and '42—total \$98.00.

After making his \$75.00 renegotiation payment, all he had left in cash was \$23.00.

And that wasn't the end of the renegotiation picture.

Before renegotiation, George had a tax refund coming to him, after the war, of \$30.00. Renegotiation reduced this postwar tax refund to \$17.50, a cut of \$12.50.

The \$200.00 renegotiation therefore cost George \$75.00 in cash, plus \$12.50 in postwar tax refund, or a total of

\$87.50. The papers said the big profiteer had paid back \$200.00.

1943 Business

The 1943 business of George Spelvin, Inc. equaled in dollar volume that of 1942; but profits were less due to increased costs, and by the spring of 1944 George was shorter than ever of cash.

After making that 1942 renegotiation payment, he hadn't enough money left over, from 1943 operations, to meet the \$80.00 due on his loan early in 1944.

He had a plant, far bigger than he would need when the war was over, that was only one-fifth paid for—and he was going to be renegotiated on his 1943 business.

According to law, he had to publish some kind of a "Profit and Loss" statement in the spring of 1944—but what would it mean to anybody?

He couldn't show in that statement the money he had paid in 1943 in settlement of renegotiation of his 1942 business. That would be against the rules. But the rules said he *had* to include, as profit, a tax refund that he wouldn't get until after the war was over.

Should he try to make an allowance in his 1943 P. & L. statement for the money he would have to pay in settlement of the forth-coming renegotiation of his 1943 business? Could he guess at the amount in advance? And if he made a guess large enough to cover all possibilities, wouldn't that just be an invitation to the Price Adjustment Board to take away from him the total amount of the guess?

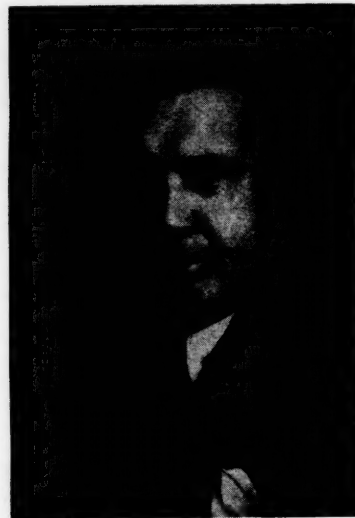
But if he didn't allow anything for renegotiation of 1943 business, the statement would be false.

"Oh well," he said to himself, "what the hell! I'll let the Government and the Certified Public Accountants figure it out. I'll be broke when the war's over anyhow."

Tampa Yard Awarded Army-Navy "E"

Tampa Shipbuilding Company, Inc., of Tampa, Florida, has been awarded the Army-Navy "E" for excellence in building ships for the United States Navy. Presentation of this outstanding honor took place on July 7, in the Tasco Yard when a high ranking Navy officer made the award and an Army officer presented the "E" lapel pins to employees.

Tasco was organized by George B. Howell in November, 1940, and expanded within a 25-month period from a yard



George B. Howell

with 300 employees to a complete shipbuilding plant employing more than 15,000. While going through this expansion the yard continued to build and launch ships on schedule and to date has launched 51 vessels of five different types ranging from the huge destroyer tenders to the streamlined mine sweepers.

Norton's Book on Abrasives

Norton Company, Worcester, Massachusetts, manufacturers of abrasives, grinding and lapping machines and refractories have prepared a book, "Norton Folks Contribute to Industry" for the employees of the company; however, it will be genuinely interesting to those concerned with the use of abrasive products, and machines. Handsomely illustrated, it is a pictorial as well as factual record of abrasives and abrasive machines throughout industry in peace and in war.

Primarily a history of the company and its products and a statement of policies, there is ample text matter covering the whole field of grinding and polishing from the nineteenth century down to date. The various uses of garnet, aluminum oxide, cylinder rope papers, rubbing down varnishes and other materials are covered along with thorough treatment of plant safety problems, precision tools, cutting wheels, etc. In other words, the book would be a valued text book in any technical library.

Although the edition is limited, copies are available from the Norton Company to executives interested in abrasives and their numerous applications.

Denison Dam Opens Southwest Possibilities

(Continued from page 34)

postwar construction of impressive layouts for boating, swimming, fishing, horseback riding and golf, with cabins and lodges for week-end or summer guests. Additional smaller park developments include a recreational center for negroes.

Because of an extensive fish stocking program by Texas, Oklahoma and the U.S. Wildlife Service, the lake will be closed to fishing until regulations are issued by the game and fish commissions of the two bordering states. The stocking program calls for the planting of 11,

000,000 bass in addition to crappie, blue gill and catfish, a great number of which already have been placed in the reservoir. The area will be open to duck hunting this fall, presumably under usual state game regulations.

Because completion of the dam now makes navigation of the Red River to Denison possible, a recent resolution by the Committee on Rivers and Harbors of the U. S. House of Representatives, authorized a review of reports with a view of determining in the interest of navigation the advisability of modifying the existing project below Fulton, Ark., to provide for construction of a navigable channel upstream to Denison.

Electric Arc Welded Structural Steel Plate Work

BETTER CONSTRUCTION AT LOWER COST



THE
AETNA STEEL
CONSTRUCTION
COMPANY

Jacksonville,
Florida

Bristol Steel & Iron Works, Inc. STRUCTURAL STEEL

For Buildings, Bridges and All Industrial Purposes
BRISTOL, VIRGINIA-TENNESSEE

District Sales Offices:
431 Third Nat'l Bank Bldg., NASHVILLE, TENN. 501 Public Service Bldg., ASHEVILLE, N. C.

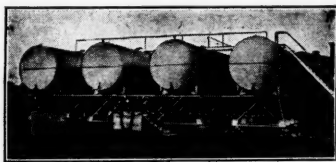
STRUCTURAL for BUILDINGS STEEL and BRIDGES

Capacity 1000 Tons per Month. 3000 Tons in Stock

Carolina Steel and Iron Company

The Largest Steel Fabricators in the Carolinas
Greensboro North Carolina
S. C. Rep. Edward McCrady, 307 Allen Bldg., Greenville, S. C.

SOUTHLAND PRODUCTS —WELDED OR RIVETED—



We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

WELDED
OR RIVETED
CONSTRUCTION

This applies to field as well as shop built equipment.

Write us for information and quotations.

CHATTANOOGA BOILER & TANK CO.
CHATTANOOGA, TENN.

Just a Minute..



You may find just what you need to fill that order by getting in touch with Lyon, Conklin & Co. in Baltimore.

Since way back in 1860, Lyon, Conklin & Co. has been a dependable source of supply for sheet metals and accessories, building materials, composition roofing and construction equipment of all kinds.

This "metal bank" has met many emergencies during World War II, but we still carry a good stock of available supplies. Before you turn any order down, check with us. Every job you can accept today is a definite contribution to industrial stability.

Tell us your requirements. If we can handle it, we'll ship promptly.

Lyon, Conklin & Co. Inc.

Baltimore 30,

Maryland

DAVIS Cypress TANKS

Take Care of Themselves-Why?

Well, they are built of well known cypress and 50 years' practical experience. Installations all over the South. We make good wood pipe also. Ask for catalogue.

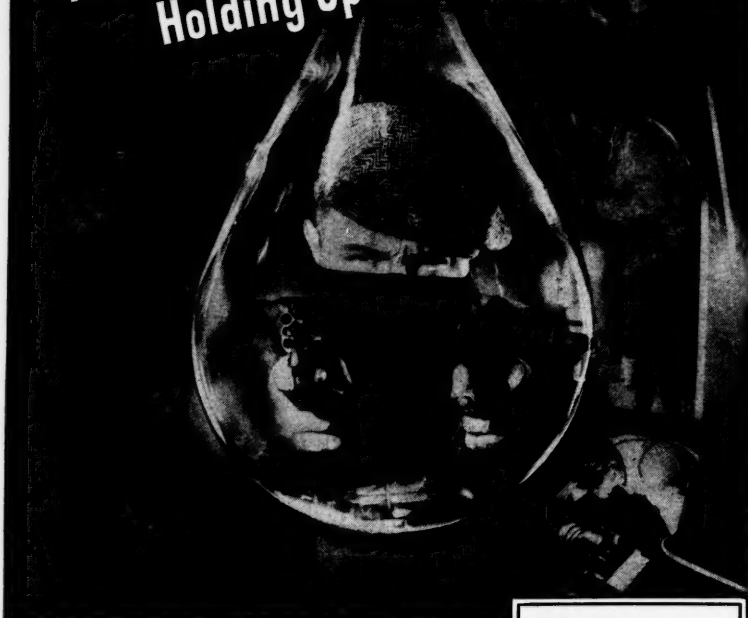


G-M-DAVIS & SON - P.O. Box 5 -
PALATKA, FLA.

JULY NINETEEN FORTY-FOUR

53

Is Salt Loss From Sweat Holding Up Your Production?



Stop it for less than 1c a man per week

When workers sweat their systems lose essential salt . . . And salt is essential. It gives tone to the blood. It keeps body fluids in equilibrium. It helps maintain proper body temperatures.

Loss of this salt through sweating dehydrates the body . . . thickens the blood . . . causes Heat-Fag. The resulting fatigue and inalertness make production sag and accidents rise.

To drink water alone is not the cure. It only dilutes the body fluids. The result is heat cramps . . . and more loss of production.

The real answer, recommended by industrial doctors and endorsed by America's greatest corporations, is to place salt tablets at every drinking fountain. Then, workers who sweat can get the salt they need when they take a drink of water. Morton's Salt Tablets are the easy, simple, sanitary way to replace the body salt sweated out. And the cost is less than 1 cent a man per week.



MORTON'S DISPENSERS
They deliver salt tablets, one at a time, quickly, cleanly—no waste. Sanitary, easily filled, durable.
800 Tablet size . . . \$3.25

Order from your distributor or directly from this advertisement . . . Write for free folder.

MORTON SALT COMPANY, Chicago 4, Ill.

This Is What Happens When Sweating Robs the Body of Salt . . .



QUICK DISSOLVING (Less than 30 Seconds)

This is how a Morton's Salt Tablet looks when magnified. See how soft and porous it is inside. When swallowed with a drink of water, it dissolves in less than 30 seconds.
Case of 9000, 10-grain salt tablets . . . \$2.60
Salt-Dextrose tablets, case of 9000 . . . \$3.15



The South Has No Race Problem

(Continued from page 28)

The people of the South have not only carried this yoke through a feeling of moral obligation but they realize that the Negroes are here, that from all indications they are going to remain largely in the South, that it is therefore to the self-interest of the South that the Negroes improve their financial status to as large an extent as possible. It is a well known fact that the per capita wealth and per capita income of the South is not much more than half the average for the nation. This in large part is accounted for by the fact that the South lost most of its invested capital, a large part of its property and much of its manpower during the Civil War. It is also due, however, in no small part to the fact that one-third of the people of the South are Negroes. The Negro race has certain fine qualities which no one is quicker to realize than the Southerner, such as patience, good humor and a native artistic temperament, particularly in music. But among these good qualities of the Negro race thrift and energy are rather conspicuous by their absence. This is not a condemnation; it is simply a statement of fact. Anyone familiar with the situation quickly realizes the effect such a large percentage of Negroes would have on the average per capita wealth and income of a region. In the two states of the South where the percentage of Negroes is largest the per capita wealth and income of the people is lowest. The South is therefore anxious to have the Negro improve himself financially in the full realization that his improvement will redound to the benefit of the whole South.

So far as social equality is concerned the South has never considered this a problem. It is simply a question that is answered before it is even asked so far as the Southerner is concerned. People in high places in other sections of the country may fraternize with the Negroes on an equal social level, agitators may propose social equality from evil or selfish motives, social reformers may discuss the question in sentimental manner and at laborious length but the people of the South are not influenced and the people of

the South are not impressed. The answer of the South always has been and always will be "Never." As a matter of fact, most people in the North probably feel the same way but as a region they have not been honest enough to say so.

Which is the more honest position to take? That of the North where they do not practice segregation and therefore claim they have no discrimination, or that of the South where segregation is an accepted principle and where it is not discrimination? That of the North where Negroes are educated with the whites and then frozen out of the use of their education or that of the South where the Negroes are educated separately and then allowed to put their training to use among their own people?

Southerners as a people probably have a higher regard for the Negroes as a race and get along better with them than could any other group. The people of the South do not fear the Negro. They do not fear what he may claim. They do not fear what others may claim for him. The people of the South are thoroughly acquainted with the situation and know how to handle it. It is the agitators outside the South, who don't understand the situation and don't know how to handle the situation, to whom it therefore appears a problem. These people would do well to let the South alone.

If we may judge from history, the Negroes as a whole will continue to consider the South their best home and the Southerners their best friends.

To Drill for N. C. Oil

Over 2,000,000 acres of state-owned land, mostly marshes, and river, lake and sound bottoms of eastern North Carolina, have been leased to two oil companies, both of which have agreed to drill wells within 18 months.

The Standard Oil Company (N.J.) has been granted all land east of the 77th meridian and north of a line drawn from Washington (N. C.) eastward to Cape Hatteras. The company had sought all the coast from Virginia to the South Carolina line. The Coastal Plains Company, already lessors of portions of Holly Shelter and the bottoms of several rivers, has been given rights east of the 77th meridian and south from a line extending from New Bern to Ocracoke Inlet. Under the leases, the state will receive one-eighth of any oil or minerals recovered. The state has reserved about one-third of its coastal holdings from terms of the leases.

INTERCHANGEABILITY *Speeds* Maintenance

THE wide interchangeability of parts designed into "Renewo" and "Ferrenewo" valves has long proved a boon to maintenance men in making their job easier.

Since valves control the very life lines of productive processes—steam, air, water, oil, gas and other fluids—it just follows that every precaution be taken to insure their proper functioning.

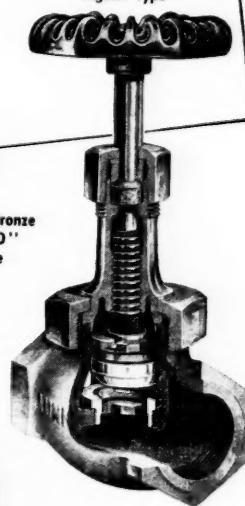
Regular checking and inspection, and prompt servicing when necessary, will be repaid in more efficient performance and longer valve life, and may well pre-empt possible shut-down for more costly repairs later.

The simplicity of design of "Renewo" and "Ferrenewo" valves, with interchangeable parts, makes it easy to keep them in good operating condition, with minimum expenditure for maintenance.

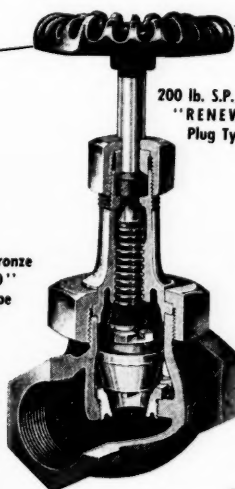
Use the complete facilities of Lunkenheim distributors.

ESTABLISHED 1862
THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI 14, OHIO, U. S. A.
NEW YORK 13 CHICAGO 6
BOSTON 10 PHILADELPHIA 7
EXPORT DEPT., 318-322 HUDSON ST., NEW YORK 13, N. Y.

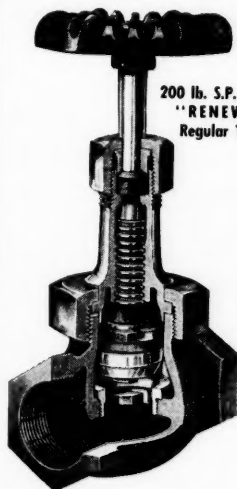
150 lb. S.P. Iron Body
"FERRENEWO"
Regular Type



200 lb. S.P. Bronze
"RENEWO"
Plug Type



200 lb. S.P. Bronze
"RENEWO"
Regular Type



Here's how
Interchangeability
Speeds Maintenance

All parts of the valves above (except bodies and bonnet rings) fit each other perfectly. If, for example, you need a stem, disc or seat ring for the "Renewo", you can use the corresponding part of the "Ferrenewo"—it is exactly the same. This means fewer parts and speedier repairs.

LUNKENHEIMER VALVES

Sulphur's Increasing Uses

(Continued from page 26)

expected to be 11,000,000 tons. The Chemicals Division of the War Production Board has agreed to bring production of superphosphate up to 7,600,000 tons, basis 18 per cent, by June 30, 1944.

To achieve such production, and the further increase for the next year and the next, more sulphuric acid will be required. Even when some acid becomes available from decreased explosives production, the demand for acid will turn from the war on the Axis to the war on famine.

Sulphur is mined by the Frasch process, which involves drilling wells to the sulphur and pumping down the wells superheated water, water heated under pressure to temperatures above the ordinary atmospheric boiling point. To lift the melted sulphur, compressed air is piped into the formation and forces the molten mineral to the surface.

Water, air and sulphur are held in wells consisting of three concentric pipes of varying diameter.

Grande Ecaille, the most unusual of all gulf coast mines, was developed under extremely difficult technical and physical conditions. The deposit lay beneath deep marshland of the Mississippi delta. All construction machinery and equipment had to be transported by barge and boat around winding bayous and through canals and lakes. The mining plant had to be constructed on forests of piling 75 feet long. The marshland was so unstable that the piling sank the first 45 feet before being struck by a pile driver. Even now, no road or railroad links Grande Ecaille with the outside world and workers commute daily on a streamline launch along a ten mile canal between the mine and the town of Port Sulphur.

U. S. Sugar Leases Oil Rights on Florida Properties

Clarence R. Biting, president of the United States Sugar Corp., recently announced the lease of oil, gas and mineral rights on properties of that corporation to Ohio Oil Company. The lease covers drilling rights on approximately 150,000 acres in the Upper Glades, abutting the southern shores of Lake Okeechobee.

In his statement announcing the lease, Mr. Biting said, "It was only after the most careful consideration of all the problems involved that we agreed to permit exploration on the lands of the Sugar Corporation. Improper methods of exploration and development of the oil, gas and mineral resources of the area might well result in injury to the great agricultural potentialities of the region."

"Before making any lease we had to be satisfied that the lessee would so conduct its operations as would fully protect such agricultural potentialities. We have proved beyond peradventure that the Everglades is the greatest agricultural resource of the nation and that resource must be protected no matter how alluring may be the prospects for oil, gas and minerals in the Upper Glades."

Cutting Tool Catalog

Kennametal, Inc., Latrobe, Pa., manufacturers of cutting tools, blanks and specialties have issued a new catalog, No. 44, now available that is larger and more profusely illustrated than previous issue. Address Kennametal, Inc., direct, or any of their branches for copy.

EPPINGER AND RUSSELL CO.

Wood Preservers Since 1878

All Kinds of Structural Timbers and Lumber
Pressure Treated with Creosote Oil or



80 EIGHTH AVE., NEW YORK, N. Y.

POLES • CROSS ARMS • PILING • TIES
POSTS, BRIDGE AND DOCK TIMBERS

Treating Plants—Jacksonville, Fla., Norfolk, Va., Long Island City, N. Y.



this heavy duty ICE PICK

... one of a fine family of HAND TOOLS

Members of the Briddell family of hand tools don't look much alike, but they have one quality in common. You guessed

it—Briddell quality. Everyone's made as good as we know how, to make work easier for the folks that use 'em.



ICE PICKS • OYSTER AND CLAM KNIVES • TONGS
AND RAKES • CLEAVERS • WRECKING BARS
AWLS • ANCHORS • GRAPNELS • OTHER ITEMS

CHAS. D. BRIDDELL, INC.

CRISFIELD, MARYLAND • Craftsmen in Metal since 1895

Exceptional Facilities for the Collection of Drafts

Remittance made on day of payment.

BALTIMORE COMMERCIAL BANK

ROBERT C. WILLIS, JR., President

BALTIMORE 3, MARYLAND

Member Federal Reserve System
Member Federal Deposit Insurance Corporation



While cosmopolitan in its general appeal, and modern up to this moment in its equipment, there is a peculiar flavor of The Old South here which Southerners are quick to note and appreciate. They feel at home and come back to us again and again.

Rates \$3.00 per day and up. Every room with bath or shower.
Centrally located.

The Southern Hotel
BALTIMORE 2

The Arundel Corporation

BALTIMORE, MD.

Dredging—Construction—Engineering

Distributors of Sand-Gravel-Stone and Commercial Slag

A COMPLETE ORGANIZATION

Our complete organization with years of experience in successfully executing large construction contracts of various kinds is prepared to undertake the construction of earth, masonry and concrete dams, drydocks, dredging of all kinds, river and harbor improvements, deepening channels, hydraulic filling and rock work, tunnels, railroad construction, sewers and waterways.

PERSONNEL:

RICHARD A. FROEHLINGER, President
JOSEPH N. SEIFERT, Secretary & Treasurer
T. K. SHAUGHNESSY, Assistant Treasurer
A. M. LEIMKUHLER, Assistant Treasurer
G. DONALD SCHAUB, Assistant Secretary
C. WARREN BLACK, Vice-President in Charge of Engineering and Construction

GEORGE H. BACOT, Vice-President in Charge of Materials' Production
JOHN A. REILLY, Vice-President in Charge of New York & New England Areas
L. EARL DIXON, Vice-President in Charge of West Coast Operations
W. G. ARMSTRONG, Vice-President in Charge of Dredging

MAIN OFFICE: Arundel Building, Pier 2, Pratt Street, BALTIMORE 2, MD.

Branches: BROOKLYN, N. Y.—MIAMI, FLA.

GLAMORGAN

PIPE & FOUNDRY CO.

LYNCHBURG, VA.

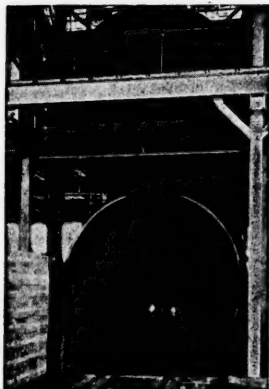
CONVERSE BRIDGE & STEEL CO.

Chattanooga, Tennessee

Structural Steel for all Industrial Structures,
Buildings and Bridges

LARGE STOCK FOR IMMEDIATE SHIPMENT

Lancaster TANKS



15'3" O.D. x 40' Long Vulcanizer

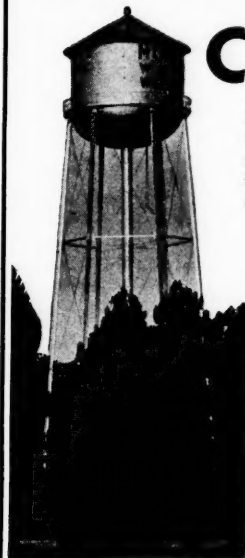
ELEVATED TANKS—PRESSURE TANKS—STEEL
STORAGE TANKS—PROCESS TANKS—BUTANE-
PROPANE TANKS—STANDPIPES—RETORTS—BINS
—EXTRACTORS—BARGES—DREDGE PIPE AND
ACCESSORIES—WELDED PIPE—RIVETED PIPE

General Steel Plate Construction
designed for your requirements.

LANCASTER IRON WORKS, INC.
LANCASTER, PENNSYLVANIA

Tank Builders For Over 80 Years!

Cities Served by Cole Tanks



Many municipal or privately owned
water works have had us build tanks
and elevated towers to specification
from their own engineer's design or
ours. Some of the cities served are:

CHARLOTTE, N. C.
(Million gallon tank)
CLEARWATER ISLAND, FLA.
DANVILLE, KY.
MOBILE, ALA.
McPHERSON, KAN.
ST. PETERSBURG, FLA.
ALBANY, GA.
GASTONIA, N. C.
(Million gallon tank)
CEDARTOWN, GA.
SPARTANBURG, S. C.
(Million and a half gallons)
NEWNAN, GA.

In addition to water tanks we
also build tanks for acid, dye, oil,
creosote, chemicals, etc., as well
as other fabricated products of
Quality steel and alloy steel plate.
Let us figure on your requirements.

An erection for Mobile Water Works

Write for "Tank Talk"—No. 8-D.

R. D. COLE MANUFACTURING CO.

ESTABLISHED 1854

NEWNAN

GEORGIA

Southern Research Institute

(Continued from page 25)

Administration

The Southern Research Institute is being initially financed by commerce and industry. Any person, firm, association or corporation interested in scientific research may become a member upon acceptance of his or its application in the manner fixed by the Board of Trustees. The nominal annual membership fee is \$25.00. The members elect the Trustees at annual meetings of the membership, each member in good standing having one vote, regardless of the amount he may have contributed to the capital of the Institute. No individual may hold more than one membership at one time.

Postwar Employment

After the war the first task of the nation will be to achieve and maintain a high rate of business activity; the responsibility for such activity for the most part will lie with private enterprise. Certainly we of the South must prepare, so

far as we can, for maximum operation of existing plant capacity, and produce to the limit products which have already been established in the buying habits of the consuming public. But this achievement will fall far short of providing adequate employment in the years to come.

The solution to the postwar employment problem lies not in a full labor complement adjusted to established commodities, but in large part to new employment evolved through the creation of new commodities. Science must be the key to this activity for creating the new products to supply the ever expanding new wants of the public. We must realize, however, that this kind of new employment is the last in a chain of trail blazing events. New employment occupations have their conception in the birth of new ideas, their incubation in the laboratories, their adolescence in the pilot plants, and their maturity in the production of new products on a commercial scale.

This growth from an idea to a

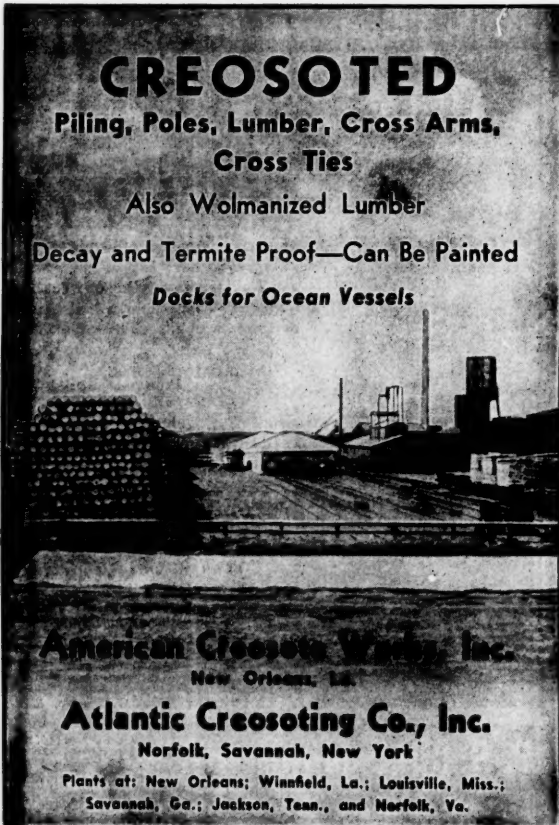
marketable product will not come about, however, of its own accord. Cooperative action by a substantial part of southern commerce and industry is required; we must organize for intensive research and use it as a functional part of the economic life of the South. Research must be part of the planning of thousands of industrial firms in the South and must become the accepted manner of thinking in the South.

We are warned again! Other regions are planning that their economy shall be guided by science, and their direction pointed by scientific knowledge. And, they are determined that their ventures shall flow vigorously ahead.

It is a happy omen that the South is awakening to its opportunity.

Machine Tool Production

Estimated total machine tool requirements for 1944, including the backlog of unfilled orders, may exceed \$600,000,000 as a result of the heavy artillery and other new military programs, says War Production Board. In order to meet this requirement, the present machine tool production rate must be kept up or exceeded, WPB officials stated. The present estimate of shipments for the year is \$485,000,000.



CREOSOTED
Piling, Poles, Lumber, Cross Arms,
Cross Ties
Also Wolmanized Lumber
Decay and Termite Proof—Can Be Painted
Docks for Ocean Vessels

American Creosote Works, Inc.
New Orleans, La.
Atlantic Creosoting Co., Inc.
Norfolk, Savannah, New York

Plants at: New Orleans; Winnfield, La.; Louisville, Miss.;
Savannah, Ga.; Jackson, Tenn.; and Norfolk, Va.

BELMONT IRON WORKS
PHILADELPHIA NEW YORK EDDYSTONE

Southern Sales Offices, Charlotte, N. C.
Engineers • Contractors • Exporters

**STRUCTURAL STEEL
BUILDINGS AND BRIDGES
RIVETED-ARC WELDED
BELMONT INTERLOCKING
CHANNEL FLOOR**

Write for Catalogue
Main Office—Philadelphia, Pa.
New York Office—44 Whitehall St.

BOXLEY QUARRIES
CRUSHED LIMESTONE & CRUSHED GRANITE

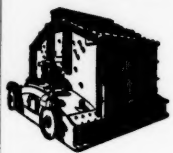
FOR Road Building, Concrete
Railroad Ballast, Furnace Flux
Filter Stone, Agstone
Limestone Sand

Four Plants Located on N. & W. and A. C. L. Railways
10,000 tons daily capacity

W. W. BOXLEY & COMPANY
711 Boxley Building, Roanoke 10, Va.

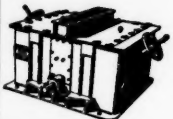
"PENNSYLVANIA" CRUSHERS

HAMMERMILLS



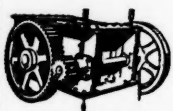
The Central Feed REVERSIBLE is the most outstanding advance in Hammermill design in 20 years. REVERSIBILITY is an exclusive "Pennsylvania" feature. For Limestones, Cement Rocks, Gypsums and wide variety of Chemicals and Industrial Minerals. Automatic hammer turning. Adjustable Cages . . . Tramp iron protection. Steelbuilt. Patented.

"IMPACTORS"



An advanced, new type that reduces by direct impact. For high Silicas, Clinkers, Slags, Chrome and Manganese Ores, Furnace Refractories, etc. Makes "rubbing" particle shape, not "slivery". Several sizes. Patented.

SINGLE ROLLS



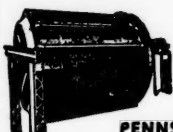
An advanced design, specialized for Coal Preparation in Mines, Cleaning Plants, Gas Works and Power Plants. Sizes for Chemicals and Industrial Minerals. Automatic Tramp Iron Protection, quick adjustability from 3/4" to 8" sizing. Powerful Steelbuilt construction. Patented.

"GRANULATORS"



Granulate materials of medium hardness . . . Bituminous coal, . . . Gypsum Rock, etc., to produce sizes 1/4" to 2", with minimum fines and oversize. Operation practically dustless. Steelbuilt. Patented.

BRADFORD BREAKERS



Reduce R.O.M. for Stoker or Pulverizer feed with absolutely no oversize and low "overgrinding". Crush by gravity impact. Automatically eject, without damage, tramp iron, mine debris and hard rock. Low H. P. . . . slow speed . . . long life. Low up-keep. . . . rugged, . . . thoroughly dependable. 25 to 500 T.P.H. Steelbuilt. Patented.

Bulletins are available to interested parties

PENNSYLVANIA CRUSHER CO.

1706 Liberty Trust Building, Philadelphia, Pennsylvania

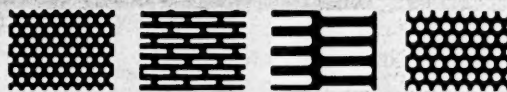
Offices in Principal Cities

Associated with Fraser & Chalmers Engineering Works, London, England.

SCREENS

of Perforated Metal

ANY METAL • ANY PERFORATION



The Harrington & King Co.

PERFORATING

1011 Milwaukee St. Chicago 44, Ill.
114 Liberty St., New York 6, N. Y.

PERFORATED METALS

For every purpose, Industrial and Ornamental

Steel, Stainless Steel, Monel Metal, Brass, Copper, Bronze, Aluminum, Zinc, Lead, Tin Plate and all other metals or materials perforated as required, and for all kinds of screens. Send for new Catalog.

CHARLES MUNDT & SONS

490 Johnston Ave.,

JERSEY CITY, N. J.

HENDRICK

PERFORATED METALS

Screens and grilles in all commercially rolled metals, all standard and special designs.

Write for literature

HENDRICK MANUFACTURING CO.

44 Dundaff Street, Carbondale, Pa.

Manufacturers of Misco Open Steel Flooring, Misco Treads and Misco Armorgrip

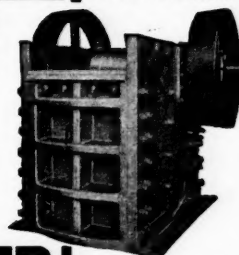
GRUENDLER CRAFTSMANSHIP

Serving Industry over 50 Years

Peak Production at Low Cost
Manufacturers of Limestone Pulverizers, Gravel or Rock Crushing and Screening Plants, Conveying and Screening Equipment.



Write for Data and Illustrated Bulletins about our Lifetime Crushing Equipment



Heavy Duty Jaw Crushers

GRUENDLER

CRUSHER and PULVERIZER CO.

2915-17 North Market St., ST. LOUIS (6), MO.

150 to 200 tons Per Hr. Crushing Steam Shovel Rock to 5' and 6' minus.

ERDLE

PERFORATED SHEET METALS

SIXTY YEARS' experience in Metal Perforating is your assurance of a satisfactory job.

Made to your specifications and shipped promptly.

Metal Sample Plate on Request.

ERDLE PERFORATING COMPANY,

171 York Street

Rochester, (11) N. Y.



McLANAHAN EQUIPMENT

CRUSHERS

Single and double roll and jaw crushers, hammer mills, super dry pans—steel log washers and scrubbers, sand drags, revolving and vibrating screens, elevators, conveyors, dryers, jigs, hoists.

SCREENS

Complete portable, semi-portable and stationary crushing, screening and washing plants for different capacities of any materials.



McLanahan & Stone Corp.

Established 1835
HOLLIDAYSBURG,
PENNSYLVANIA

Private Enterprise Threatened

(Continued from page 33)

property without "due process of law and just compensation."

This may be necessary in time of war, yet, in light of our experience, prior to and since Pearl Harbor, what assurance, I ask, do we have that these powers will be restored to the people after we have won the war, if the philosophy of the New Deal party continues to rule our lives?

Our Government will never be any better or more secure than you and millions of others like you determine to make it. It will be as bad and corrupt as you and others like you permit it to be.

We, who are privileged to remain at home while millions of our citizens risk their lives in the armed forces, must recognize—that we are trustees for them, that we owe them the obligation to preserve American institutions and freedoms so that when they return, they do not find their substance wasted and their country materially and spiritually impoverished.

We should make up our minds that it has to be either the citizen and his Government or dictatorship and its slaves. There can be no compromise. In their relentless drive for power, demagogues never compromise. With them, it's all or nothing.

The good citizens of this Nation cannot afford to be apathetic or cynical about our grave predicament. They must come out of their cellars of silent submission—into the open space of free political discussion.

This is where they belong and where they can best serve and save the greatest system of government ever conceived by man.

—George E. Stringfellow,
Vice President, Thomas
A. Edison, Incorporated.

Arkansas Bauxite Mapped

A geologic map of the Arkansas bauxite district in Saline and Pulaski Counties has been prepared by the Geological Survey, United States Department of the Interior. This district has been the chief domestic source of bauxite (aluminum

ore) for the United States since 1903, and now produces approximately 95 per cent of the bauxite mined in this country. Between 1898, when mining was begun, and the end of 1943, nearly 19,000,000 long tons of ore was mined in these two counties. The importance of this district as the principal source of ore for the production of metallic aluminum for war purposes has led to an intensive study of the area. Since December, 1941, the Geological Survey and the Bureau of Mines have been engaged in a cooperative project with the objective of locating and delimiting the remaining undiscovered bauxite reserves of the district. The work is still in progress, but the present map summarizes the geologic information compiled to date.

Copies of the map and accompanying text may be obtained for 50 cents a copy by those directly interested in the development of this area upon application to the Director, Geological Survey, Washington 25, D. C., or to the office of the Federal Geological Survey, 320 Rector Building, Little Rock, Ark.

Southern Shipyards to Build 31 C1-M-AV1 Cargo Vessels

Thirty-one of the 51 new cargo vessels of the C1-M-AV1 type recently contracted for by the Maritime Commission will be built in southern yards. These ships have a capacity of approximately 5,000 dead-weight tons. Southeastern Shipbuilding Corporation, Savannah, Ga., was awarded a contract for twenty vessels and the J. A. Jones Construction Co., Brunswick, Ga., received a contract for eleven.



FOR BEST RESULTS USE:

- D-B FOUNTAIN STENCIL BRUSHES
- D-B FOUNTAIN MARKING PENCILS
- D-B INKS
- D-B STENCIL BOARDS



YOUR SHIPMENTS ARE IMPORTANT

CLEAR—EASILY READ—PERMANENT STENCILED ADDRESSED SHIPMENTS move thru the Shipping Room faster and are speeded all along in transit.

DIAGRAPH-BRADLEY FOUNTAIN STENCIL BRUSH
—features: button type ink control—ink capacity for 1,200 to 1,500 addresses—positively will not flood, clog, smear, or leak—replaceable bristle tip—non-breakable leak-proof end.

DIAGRAPH-BRADLEY FOUNTAIN MARKING PENCIL
—a leak-proof non-clogging marking pencil for use wherever a marking pencil is required.

COMPLETE SHIPPING ROOM SUPPLIES

D.B. DIAGRAPH-BRADLEY

STENCIL MACHINES

DIAGRAPH-BRADLEY STENCIL MACHINE CORPORATION
NO. 58 DIAGRAPH BRADLEY BUILDING
ST. LOUIS, 8, MISSOURI

DISTRIBUTORS IN PRINCIPAL CITIES

WORLD'S OLDEST AND LARGEST MANUFACTURER OF STENCIL MACHINES

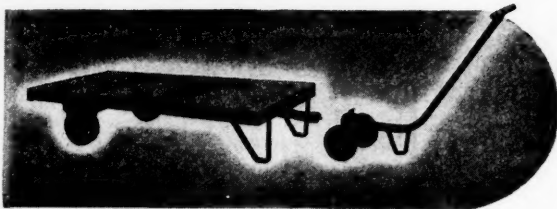
1903,
5 per
entry.
egun,
D long
count-
et as
pro-
war
dy of
Geo-
lines
proj-
d de-
vered
work
map
nation

ying
copy
e de-
ation
ash-
Fed-
child-

31

ssels
ected
l be
ave
eading
ard-
the
ick,

THOMAS TRUCK of Keokuk



THOMAS MAKES



4 WHEEL TRUCKS



2 WHEEL TRUCKS



CASTERS



RUBBER WHEELS

JAK TUNG TRUCKS

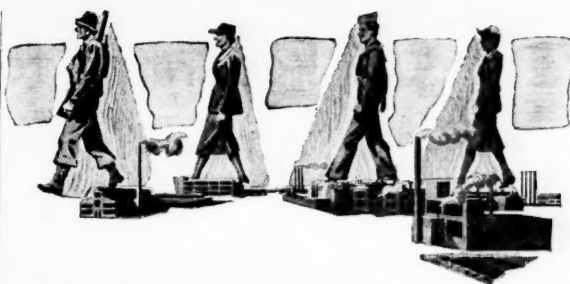
- Removable Jak-Tung lifts and moves truck
- Jak-Tung platforms to store and carry loads
- One Jak-Tung serves many platforms.
- Jak-Tung is simple, safe and easy to raise and lower
- Speedy, flexible and efficient in operation
- Sizes, types and capacities for most uses
- With or without "Job-Suited" Superstructures

Put your plant on wheels—save men, save time. Use the Jak-Tung way to avoid rehandling of loads. One Jak-Tung serves many trucks. The No. 125 steel frame Jak-Tung truck is available in 8 platform sizes, with semi-steel or rubber wheels. Capacities 1,760 lbs. to 3,500 lbs. Welded steel angle frame. Hardwood deck. Shown with No. 102R Jak-Tung. Molded-on rubber tired. Hyatt bearing wheels. Simple, safe, easy lift and easy swivel. One serves many trucks.

Write for new Catalog No. 43

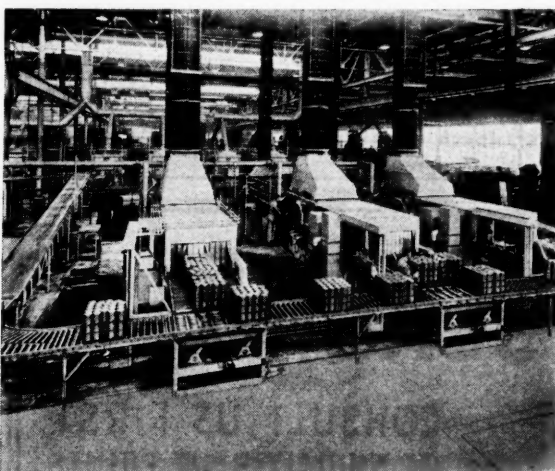
THOMAS TRUCK & CASTER CO.

445 MISSISSIPPI RIVER, KEOKUK, IOWA



As Manpower Problems grow more acute!

As war production reaches its peak, the manpower situation in industry changes. In most cases the problems are becoming more acute. The demands for men and women for the Armed Forces are heavy. The only recourse, if production is to be maintained, is the use of more women or older men, whenever possible. More than ever, Mathews Engineering is essential. Mathews Gravity and Power Conveyers, and the special devices which make Mathews Systems prominent, are on the job in the great war plants of the United States and Canada, helping to move materials through manufacturing departments with greater control, lower cost, and with a minimum of fatiguing effort on the part of machine operators. They are serving these men and women — helping them to do a better job without unnecessary re-handling of heavy materials. Mathews Engineering service is available in principal cities of the United States and Canada.



Mathews Conveyor Company
ELLWOOD CITY, PENNSYLVANIA

1905



1944

FLEXIBLE SHAFT and MACHINES

One Hundred Twenty-five Types and Sizes

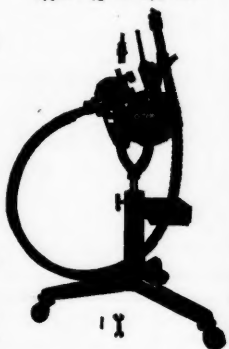
1/4 TO 3 H. P.

ON TO VICTORY

SEND FOR
CATALOG

Swivel Yoke
Types—1/4 to 1 1/2 HP.

High Speed
Steel
Rotary
Files
and
Ground
Cutters



Our thirty-ninth year in this industry.

The Largest Exclusive Flexible Shaft Equipment Manufacturers.

QUALITY MACHINES ONLY

N. A. STRAND & CO.
CHICAGO, ILL.

ZONE 40

5001 NO. WOLCOTT AVE.

JULY NINETEEN FORTY-FOUR

Call Federated for Non-Ferrous Metals!

**ALUMINUM • BRASS • BRONZE • TYPE METAL
DIE CAST ALLOYS • SOLDER • BABBITT • ZINC DUST**

All of these in standard specifications. Special alloys to your order.

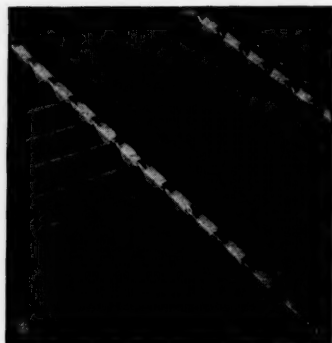
ATLANTA: 1410 Peachtree Street
BALTIMORE: Highland and Eastbourne Aves.
BIRMINGHAM: 930 Second Avenue, North

FMD

Federated

**METALS DIVISION
AMERICAN SMELTING and REFINING COMPANY**

120 BROADWAY, NEW YORK (5) N. Y.
Nation-wide service with offices in principal cities



GARY WELDED GRATING

Square edge bars for safe footing.
Hexagonal cross bars for neat appearance.

Gary-Riveted Grating :: Gary Stair Treads

*Send for attractive paper-weight sample, which is yours for the asking.
Catalogues upon request.*

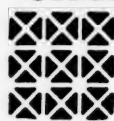
STANDARD STEEL SPRING CO., 2700 E. 5th Street, GARY, INDIANA

SCREWS

**CONSULT US FIRST
OR SUBMIT BLUE PRINTS**

SAMUEL J. SHIMER & SONS MILTON PA.

Ornamental and Industrial

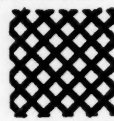


PERFORATED METALS

*We carry a large stock for
immediate shipment.*

Send for Our Catalogue.

Manhattan Perforated Metal Co., Inc., 43-17 37th St., L. I. City, N. Y.



**Pumps— Deep-Well Plunger and
Turbine**

Strainers— and other well supplies

WATER PRESSURE SYSTEMS

A. D. COOK, Inc.

Lawrenceburg, Indiana

The Sea Mule

(Continued from page 62)

fore, only the slightest pressure on the wheel is necessary. The forward and reverse gears also are hydraulically controlled through clutches in the control tower, slightly aft of amidship on the center line. Any one or all of the engines may be started or stopped. The rudder is of the remote control hydraulic reversible type, too.

An improved pushing knee is employed on the Maud. It is similar to the conventional heavy oak beam with one outstanding exception: an 8 x 10-inch strip of rubber in the center reduces shock and wear on vessels being pushed.

Of great importance in the development of the Sea Mule is the fact that it may be built in a larger or smaller version with more or less horsepower to suit specified needs.

The uses of the Ingalls Sea Mule, as yet, have not been fully explored. She would serve ideally as a fire-fighting unit, with her deck holding six water throwers delivering 90,000 gallons per minute. Equipped with gasoline engines, the Mule would take no time to warm up and she could get to the "seat" of a fire better than a larger boat.

With her shallow draft, the Sea Mule would be ideal for pushing barges into island ports where harbors will not accommodate sea-going cargo ships. The ships could unload cargo into barges which would be towed into the docks.

Development of this low-cost workboat may well represent an historical turn in the annals of the United States and other countries which have sought, but never realized, complete utilization of rivers for transportation.



**...GETS
THERE FASTER
when it's**

MARSH STENCIL MARKED



"...we know from experience stencil marking of freight contributes materially to prompt, correct deliveries."

—Ass'n of Amer. R. R.

With Stencil-Marked addresses, shipments get accurate, faster delivery. Requires no experience. Saves up to \$50 monthly in shipping room time. Write for prices and booklet. **MARSH STENCIL MACHINE CO., 55 Marsh Bldg., Belleville, Ill.**

PROMPT DELIVERY IN THREE SIZES TO MEET GOVERNMENT SPECIFICATIONS... $\frac{1}{2}$ " 3" and 1".

MARSH

Gates—Intake, Sluiceway and Spillway

Hydraulic Turbines — Francis and

Propeller Types

Rack Rakes

Trash Racks

Valves—Pipe Line and Penstock

**NEWPORT NEWS SHIPBUILDING
AND DRY DOCK COMPANY**

NEWPORT NEWS, VIRGINIA

JULY NINETEEN FORTY-FOUR



ON THE

"SWING SHIFT"

And Around the Clock . . .

Time means nothing to a finely engineered, sturdily built and properly installed Layne Well Water System. Throughout the twenty-four hours of each day it must be in perfect, and thoroughly dependable, working order. A sudden water failure could bring disaster.

Layne Well Water Systems—thanks to more than sixty years of world-wide experience—are as near failure proof as human skill, manufacturing honesty and quality materials can make mechanical equipment. Even the metals used in contact with the water are varied to assure longer life where corrosive conditions are encountered.

In addition to sturdiness in build and quality of materials used, Layne Well Water Systems and Layne Vertical Turbine Pumps are famous for their high efficiency. Such efficiency effects substantial savings each year.

To get all that you expect and must have in a dependable and long lasting water system, and to eliminate worry of failure, always choose a Layne Well Water System. Fully illustrated literature may be obtained by addressing Layne & Bowler, Inc., General Offices, Memphis 8, Tenn.

AFFILIATED COMPANIES: Layne-Arkansas Co., Stuttgart, Ark. * Layne-Atlantic Co., Norfolk, Va. * Layne-Central Co., Memphis, Tenn. * Layne-Northern Co., Mishawaka, Ind. * Layne-Louisiana Co., Lake Charles, La. * Louisiana Well Co., Monroe, La. * Layne-New York Co., New York City * Layne-Northwest Co., Milwaukee, Wis. * Layne-Ohio Co., Columbus, Ohio * Layne-Texas Co., Houston, Texas * Layne-Western Co., Kansas City, Mo. * Layne-Western Co. of Minnesota, Minneapolis, Minn. * International Water Supply, Ltd., London, Ontario, Canada.



WELL WATER SYSTEMS

DEEP WELL PUMPS

**BUILDERS OF WELL WATER SYSTEMS FOR
EVERY INDUSTRIAL AND MUNICIPAL NEED**

Viscose Addition Progressing

(Continued from page 29)

for synthetic rubber tires, one reason for this being that rayon has high resistance to the heat that is generated in these tires when in service. Rayon also saves rubber, since tires made with rayon fabric require less rubber.

The basic raw material used in the manufacture of rayon is cellulose.

This is obtained from cotton linters, the short fibers that remain on the cotton seeds after the longer fibers have been removed by ginning, and from wood pulp.

Through its purchases of these materials, the rayon industry contributes substantially each year to the income of the Southern States, where most of the rayon producing

plants are located. In 1943 the rayon industry used 55,550 tons of cotton linters pulp, which was equivalent to 237,000 bales of raw cotton linters. Consumption of cotton linters is expected to increase materially in the future.

Southern pine is providing an increasing amount of the wood pulp used in the manufacture of rayon. A decade ago these trees were considered unsuitable for making the pure type of cellulose needed to make rayon. Though they grew in abundance, they brought no income to the farmers and others on whose land they stood.

Today, as a result of the research work carried out by the late Dr. Charles H. Herty under the direction of The Chemical Foundation, Southern pine provides excellent pulp for the rayon industry and brings in an increasing amount of income each year to the Southern States. Careful reforestation programs insure the permanent existence of the pine forests. The companies that use Southern pine to make wood pulp regard their trees as valuable crops, just as are wheat and cotton, and the annual cut is regularly replaced by new trees.

Surplus War Property Disposal

W. L. Clayton, Surplus War Property Administrator, has announced that the War Production Board will cooperate with the procuring agencies of the armed services in disposing of property left over from terminated contracts. The board's 13 regional offices will endeavor to find buyers who are permitted under WPB regulations to purchase such surplus materials. Each regional office will have on file a list of property available in its territory and offerings will be made therefrom in conformity with the price policy recently established by the Surplus War Property Administration.



JOHNSON
Music Wire

Wire of a thousand uses. Drawn under strict laboratory control all the way from original steel to finished product. When you specify Johnson XLO Music Wire you are certain of a high quality product in every respect.

Note coil spring that comes to you on every coil of wire.

Stock sizes .003" to .200" dia.
In coils or packages.

JOHNSON STEEL & WIRE CO., INC.
WORCESTER 1, MASSACHUSETTS
NEW YORK ATLANTA AKRON CHICAGO LOS ANGELES

GALVANIZING

Have it done by Philadelphia's OLDEST,
the Country's LARGEST

—HOT DIP JOB GALVANIZER—

Joseph P. Cattie & Bros., Inc.

Gaul & Letterly Sts., Philadelphia, Pa.

GALVANIZED PRODUCTS FURNISHED

POWER PLANTS—WATER WORKS

Contractors

BURFORD, HALL & SMITH

140 Edgewood Ave., N. E.

Atlanta, Georgia

CONVEYORS FOR STONE — COAL — SAND

E. F. CRAVEN COMPANY

Greensboro, N. C.

CANNING MACHINERY

FOR
FRUITS · VEGETABLES · FISH · ETC.

DEHYDRATING EQUIPMENT

A. K. ROBINS & CO. INC. BALTIMORE, MD.

WRITE FOR CATALOGUE

MANUFACTURERS RECORD FOR

BALANCED RODS

Another
PLUS FEATURE
IN ALL
WISCONSIN
Air-Cooled
ENGINES

Every connecting rod, in every Wisconsin Air-Cooled Engine, is precision-balanced to eliminate all weight variations in excess of 1/4-ounce per rod.

This is admittedly cutting it pretty fine for a rough-and-ready heavy-duty engine . . . but not too fine for these fine engines. Smooth operation, reduction of vibration to a negligible minimum, prevention of excessive wear . . . these are factors that can be controlled only by the most meticulous care and attention to such small details as this in building an engine.

The value of this attention comes into play when a Wisconsin Air-Cooled Engine powers your equipment.

Most
H.P. per
pound

WISCONSIN MOTOR

Corporation
MILWAUKEE 14, WISCONSIN, U. S. A.
World's Largest Builders of Heavy-Duty Air-Cooled Engines



MOVE MATERIALS FOR WAR AND PEACE

IN **Fulton WATERPROOF COTTON**
AND BURLAP PAPER LINED BAGS

In these times bag production is war production. Our plants have supplied millions of sand bags as well as various other items for use in combat areas. Behind the lines, supplies of food and other material are transported thousands of miles in bags specially designed to protect contents against hazards of rough handling, moisture and insects. Back here at home bags must move a long list of essential commodities ranging from small machine parts, through dozens of items of food, feed and produce to the hygroscopic chemicals requiring special waterproof packages. Many Fulton Waterproof Paper Lined Bags are replacing containers made of critical materials—metal drums, wooden boxes and barrels.

The output of our plants will continue to be devoted to these essential requirements until Victory itself is "in the bag."

FULTON BAG & COTTON MILLS

Manufacturers since 1870

Atlanta St. Louis Dallas
Minneapolis New York New Orleans Kansas City, Kan.



*The Sign
of
Quality!*

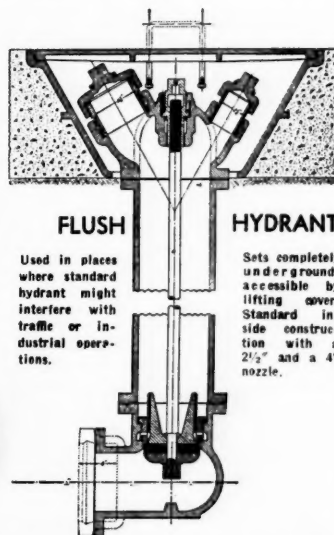
VALVES HYDRANTS and pipe line accessories



Gate Valve



Check Valve



FLUSH

Used in places where standard hydrant might interfere with traffic or industrial operations.

HYDRANT

Sets completely underground, accessible by lifting cover. Standard inside construction with a 2 1/2" and a 4" nozzle.

M & H GATE VALVES are cast iron body, bronze mounted, with double-disc parallel seat or solid wedge top, non-rising stem or outside screw yoke. They come either with flanged or screwed connections. Valves for fire protection lines are marked "UA-FM" to denote approval of both the Underwriters and the Factory mutuals.

M & H FIRE HYDRANTS are revolving head, dry top, bronze mounted. They also are approved by "UA-FM". Entire main valve assembly is removable through barrel without digging. Special Traffic Model is fitted with breakable bolts and stem coupling, designed to break at ground line under impact. Repairs are made simply by renewing bolts and coupling, without shutting off the water.

M & H PRODUCTS INCLUDE

FIRE HYDRANTS
GATE VALVES
TAPPING VALVES
WALL CASTINGS
SPECIAL CASTINGS
TAPPING SLEEVES
CHECK VALVES
FLOOR STANDS
EXTENSION STEMS

SHEAR GATES
MUD VALVES
VALVE BOXES
FLAP VALVES
SLUDGE SHOES
FLANGE AND
FLARE FITTINGS
FLANGED FITTINGS
B & S FITTINGS
CUTTING-IN TEES

M & H VALVE AND FITTINGS COMPANY

ANNISTON, ALABAMA

Railroad Purchases High

(Continued from page 48)

lubricating oils and grease, illuminating oils, boiler compound and waste; \$20,258,000 for stationery and printing; \$56,417,000 for commissary supplies for dining cars, camps and restaurants; \$19,783,000 for electrical materials; \$19,500,000 for ballast; \$29,544,000 for non-ferrous metals and products; \$7,631,000 for passenger car trimmings; and \$22,463,000 for locomotive, train and station supplies.

Southerners to P. I. W. C.

Arch H. Rowan of Dallas, Tex., and James W. Vaiden of Tulsa, Okla., were recently appointed to the Petroleum Industry War Council, increasing the membership of that body to 78. Mr. Rowan, one of the foremost oil well drilling contractors in the country, is president of the Rowan Drilling Co. Mr. Vaiden is vice-president of the Skelly Oil Company in charge of natural gasoline production.

Pemco Personnel Changes

The Pemco Corp. of Baltimore has announced a number of personnel changes. R. L. Foraker has joined their sales staff and will cover the Chicago territory. Mr. George Blumenthal and Mr. S. S. Grogg have also become associated with Pemco. The former will handle Pemco's line of glazed frits in New England and the Atlantic seaboard states. Mr. Grogg will cover Ohio, part of West Virginia, Indiana, Illinois and Michigan. Mr. James Theodore has become buyer and Mr. O. L. Davis moves from the position of purchasing agent to assistant works manager.

National Rivers & Harbors Congress Meeting

A special session of the National Rivers and Harbors Congress will be held in New Orleans, La., at the Roosevelt Hotel, July 27 and 28. The Projects Committee will meet July 26 immediately preceding the convention for consideration of individual projects. The Congress has not met for two years, due to the war, but Dewey Short, president, believes the critical legislative situation makes advisable a meeting at this time. In making the call for the session, Mr. Short outlined a broad seven-point program for consideration by the Congress.

Small Furnace for Aviators

Weighing only 45 pounds and of the size of an average traveling bag, a portable, self-powered forced warm air furnace has been developed by the Norge Division of the Borg-Warner Corp. of Detroit. It will have a number of ground and flight uses by the Army Air Forces, for which it was especially developed.

New Air Blaster Fan

The Air Blaster, a fan which delivers a strong current of air to distant places with little expansion on the way, has just been put on the market by the Chelsea Fan & Blower Co. of Irvington, N. J. Designed to reach out-of-the-way spots in steel mills, foundries, ships' holds, etc., the high velocity fan also has been found useful as a "bug fan" in insect-infested oil fields. Fan comes in three sizes, in a welded steel housing mounted on an adjustable pedestal.

Jet Planes Described

General B. W. Chidlaw, U. S. A., recently told interesting facts about jet propelled planes. General Chidlaw stressed the fact that our sons will some day fly these planes, and described their speed possibilities and performance at high altitudes as valuable for combat purposes.

The plane, according to the General, acts as most conventional planes in operation, but there is a minimum of noise in the pilot's cockpit and no vibration. The absence of propellers, with the noise of the jets behind the pilot, give him a calmness and relative quiet not enjoyed in the present conventional plane where engines and propeller are forward of the pilot.

Bulloch to WPB Advisory Post

W. J. Bulloch, President of W. I. Bulloch, Inc., Birmingham, Ala., has been appointed to the newly-formed Aluminum Smelters Industry Advisory Committee of War Production Board.

WAR'S IMPACT ON YOUR BUSINESS

is the reason you need to see Wall Street Journal daily. Fast news of all Govt. regulations, tax developments, materials, labor, industry. 3 months' trial, only \$5.

WALL STREET JOURNAL * 44 Broad St., New York

Rudolph Shuttling
ARTIST
Specializing in REALISTIC, HAND-DRAWN
PICTURES OF INDUSTRIAL PLANTS
CHATTANOOGA, TENNESSEE
POST OFFICE BOX 1186

P. M. BARGER LUMBER COMPANY
Wholesale Lumber—Mouldings and Shingles
Statesville, N. C.
Branch Office:
P. O. Box 5998, Bethesda Station, Washington 14, D. C.
BARGER MILLWORK COMPANY
Wholesale Windows and Doors
Statesville, N. C.

Order the New Seventy-Ninth Year Textile Blue Book Today!

Only a limited edition is available

It reports the entire textile manufacturing industry with dyers and finishers, all allied firms and dealers. The mill reports give details on each plant—date established, capital, executives' names, machinery operated, goods made and number of employees, etc.

You will want this important 79th year issue for your office and for reference every day. You will be proud to own a copy of this valuable book and its small cost should be returned to you many times over.

For selling—for buying—for reference and for mail campaigns, in these active textile days—you need this latest revision of the entire trade. The large edition in your office—the salesman's size for your men on the road, will easily return their small cost!

Thumb indexes for instant reference to any section. Gold and Sturdite bindings.

Deluxe office edition\$8.25
Handy size (not shown)\$5.75
Salesman's edition\$4.50

The New 79th Year Edition is new in all the essential things that count in a complete guide to the Textile Industry. New from cover to cover. New with over eight thousand revised mill reports. New information on some twenty-four thousand dealers and firms in allied lines. New in up-to-date information on markets you can sell with profit. New in giving thousands of sources where you can buy with savings.

Old books are obsolete—expensive to use and unreliable! An enormous number of changes and great mass of new data is now available.

DAVISON PUBLISHING COMPANY

Executive, Production and Sales Office at RIDGEWOOD, NEW JERSEY, U. S. A.

